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Powerful Opportunity

Distributed Energy Generation

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2001 Annual Report

Company Profile

FuelCell Energy, Inc. (www.fuelcellenergy.com) is a world-recognized leader for development and commercialization of fuel cells for electric power generation. FuelCell Energy's patented Direct FuelCell® (DFC®) technology combines high efficiency, simplicity, reliability and economical cost for stationary power generation. Customer applications include universities, hospitals, commercial buildings, and industrial facilities with power requirements ranging from 250 kW to 50 MW.

Financial Highlights

(Dollars in thousands, except per share data)	2001	2000	October 31,		1997
Revenues	\$ 26,179	\$ 20,715	\$ 19,965	\$ 24,318	\$ 24,830
Net Income (loss)	(15,438)	(4,459)	(985)	(382)	425
Basic and diluted earnings (loss) per share	(0.45)	(0.16)	(0.04)	(0.02)	0.02
Total assets	334,020	91,028	19,831	26,843	21,433
Total shareholders' equity	319,716	83,251	14,815	15,870	14,769



Distributed Energy Generation





The market is demanding electrical power generation that is clean, reliable, and highly efficient.

FuelCell Energy is ready to deliver.

Through its global network of licensees and partners, FuelCell Energy has positioned itself to take advantage of emerging opportunities for distributed generation power plants. Emissions, grid congestion, high efficiency, reliability and security will drive the early markets.

U.S. Partnerships Focus on Opportunities Present Today

High electricity prices and significant grid constraints in California, the Northeast and key cities, and environmental non-attainment locations scattered throughout the United States provide immediate opportunities for DFC power plants. Strategic partnerships — Caterpillar, Chevron Energy Solutions, CMS Viron Energy Services and PPL Energy Plus will initially target these markets.

International Partnerships

MTU, a division of DaimlerChrysler, is marketing our fuel cell technology in Europe focused on combined heat and power applications capable of thermal efficiencies greater than 70%. In September, MTU announced the siting of seven additional sub-megawatt units with such prominent German utilities as RWE and Deutsche Telecom. Our Japanese partner, Marubeni Corporation, is marketing our fuel cell technology in Asia and announced the siting of a 250 kW unit using industrial anaerobic digester gas at the Kirin Brewery outside of Tokyo, Japan.



To Our Shareholders

We see a powerful opportunity before us in distributed generation, a market whose drivers require clean, reliable and efficient fuel cell power plants. The milestones we have achieved to date, particularly in 2001, prepare us to deliver commercial power plants to our customers.

Market Drivers Support our Direct FuelCell® Technology

As we leave 2001, it is becoming very clear that the global market drivers for clean distributed generation are strong and growing:

Reliability – The continued growth of the 24x7 global economy and the inadequacies of the current central generation/transmission grid structure increase the need for higher electrical reliability. Distributed generation can respond to this need by locating power generation close to the user.

Emissions – Highly industrialized regions of the world, especially urban areas, suffer from high pollution rates that restrict the ability to add traditional combustion based power generation. Fuel cells, which have ultra-low emissions, can be sited in these areas and allow these regions to grow their economies by increasing power generation while reducing pollution.

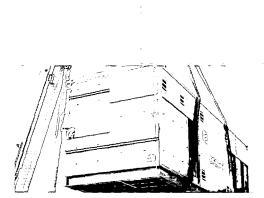
Grid Constraints — In many areas, the electrical transmission and distribution system has not kept pace with economic development, resulting in a shortage of available power. Urban areas generally have stringent permitting and siting requirements that can impede capacity additions and/or make the cost of additions prohibitive. Fuel cells can be sited within these areas to supplement and increase the capacity of the grid.

Security — The events of 2001 have placed greater emphasis on reducing our dependence on a large vulnerable infrastructure. Substituting smaller, site-specific generation plants for large central power plants would distribute this risk.

Efficiency and Energy Independence – The average efficiency of power generation in the United States utilizing a combination of large combined cycle gas turbines, coal plants and other technologies today is less than 40 percent. Fuel cell distributed generation has the potential to reach efficiencies in excess of 47 percent for single cycle applications and 75 percent for combined heat and power and combined cycle applications. In addition, instead of building large power plants and then transmitting the power over hundreds of miles, fuel cells can be located at the site where the power is needed.

Mercedes-Benz Manufacturing Facility We delivered our first U.S. commercial field trial to the Mercedes-Benz manufacturing facility in Tuscaloosa, Alabama in June 2001. This field trial is a partnership with the Southern Company, Alabama Municipal Electric Authority, Alabama Power and Mercedes-Benz U.S. International, Inc.







Broad initiatives are being implemented globally to accelerate the adoption of renewable technologies. The National Energy Policy issued last year will become a focal point of congressional discussions in 2002. We anticipate additional emphasis being placed on alternative power sources in general and fuel cell technology in particular, as outlined in the original policy. The Department of Energy (DOE) and the Environmental Protection Agency continue to directly support FuelCell Energy with targeted programs.

Programs to foster fuel cell development have been implemented in California, Texas, New Jersey, Connecticut, and Massachusetts, among others, as well as in Germany and Japan. These initiatives include the California Power Authority's plan to add 370 MW of stationary fuel cell power plants by 2005, subsidies of \$3,000 per kW in New Jersey and 5 eurocents per kWh in Germany. Many states have enacted legislation requiring that a percentage of their total power generation must come from renewable technologies, including fuel cells. In addition, Connecticut has purchased, and Massachusetts has contributed to the purchase of 250 kW DFC power plants in their states. These are just a few examples of the programs designed to advance fuel cell power generation.

Milestones Accomplished in 2001

We continue our progress toward the commercialization of our DFC power plant. In 2001, we:

- Expanded our manufacturing equipment capacity to 50 MW annually,
- · Operated field trial units in the U.S. and Europe,
- · Increased our backlog to 12 MW,
- · Enhanced our sub-megawatt unit to incorporate improvements developed from our current field trial program,
- · Added additional distribution partners to market our fuel cell power plants, and
- Raised sufficient capital to fund additional expansion and the path to profitability.

To facilitate these accomplishments, our employee count increased from 152 to 264, a 74 percent increase, and I am proud of the accomplishments they have made to our successes in 2001.

Manufacturing Equipment Capacity Expanded to 50 MW Stage Set for Additional Expansion

We achieved our goal to expand manufacturing capacity to 50 MW annually. We head into 2002 with a 12 MW order backlog and, as new orders materialize, will be able to further expand this capacity. Accomplishing this has made our next milestone -150 MW of annual production - an attainable goal. Our target of 400 MW of annual production capacity in 2004 remains our longer-term goal.





U.S. Field Trials Delivered in 2001 In July 2001, we delivered and installed a 250 kW Direct FuelCell at the Los Angeles Department of Water and Power's headquarter building.

Operational Field Trials Delivered Enhancements Being Initiated in Next Series

The Company delivered three sub-megawatt field trial units to customers during 2001 — one through our German partner, the MTU division of DaimlerChrysler, at the Rhön-Klinikum Hospital, one at the headquarters of the Los Angeles Department of Water and Power, and one at the Mercedes-Benz manufacturing facility in Tuscaloosa, Alabama. The operational experience from these units has enabled us to incorporate design improvements into the next field trial units to be delivered in 2002.

Enhancements to our sub-megawatt class products are being incorporated into our megawatt class products. We will be initiating a test of the megawatt class power plant unit in 2002 at our Connecticut facility, to be followed by the delivery of the field trial power plant for the King County municipal wastewater treatment facility in Washington State.

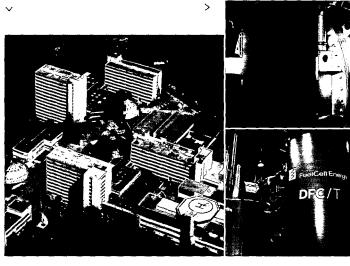
Other Product Development Advances

The "proof-of-concept" DFC/T®, a more efficient power plant that utilizes the by-product heat from the fuel cell to power a microturbine for additional electrical output, was started in July 2001. The testing to date has verified the operability of the combined system. This "proof-of-concept" demonstration will provide information for systems integration of a 40 MW DFC/T power plant that we expect to approach the 75 percent efficiency goal as specified by the DOE's Vision 21 program, as well as to serve as a platform for high efficiency DFC/T power plants in smaller sizes.

We continue to progress on our Ship Service Fuel Cell, a power plant that operates on diesel fuel, and delivery of a land-based field trial unit for the U.S. Navy is on target for 2003. This product will be especially suitable for marine and island applications where access to other hydrocarbon-based fuel is restricted.

Rhön-Klinikum Hospital

In Germany, MTU installed its second submegawatt field trial power plant this past May and announced the siting of seven additional power plants.



< DFC/T®

The first test of the ultra high-efficiency DFC/T system that combines a microturbine with our Direct FuelCell power plant began operation in July 2001.

Distribution Partnerships Expanded in 2001

Another significant milestone achieved in 2001, and a key component to our commercialization efforts, was the addition of three distribution partners and the further enhancement of our existing partnerships.

Joint market development agreements were announced with Caterpillar, an industry leader in the production and distribution of diesel and natural gas engines, Chevron Energy Solutions, an energy services subsidiary of ChevronTexaco, a global energy leader with operations in 180 countries throughout the world in oil and gas exploration, production, refineries and power plants, and CMS Viron Energy Services, an energy services subsidiary of CMS Energy, a diversified energy company involved in generation, transmission and distribution of both electricity and gas. Together with PPL Energy Plus (PPL), a partner established in 2000, we are confident in our ability to successfully bid on opportunities in areas of the country with the potential of high electrical prices, grid constraints and strict emission regulations. PPL announced the siting of its first field trial unit in Cape Cod, Massachusetts — a 250 kW plant for the U.S. Coast Guard. PPL has an order for an additional six units, which will be delivered this year.

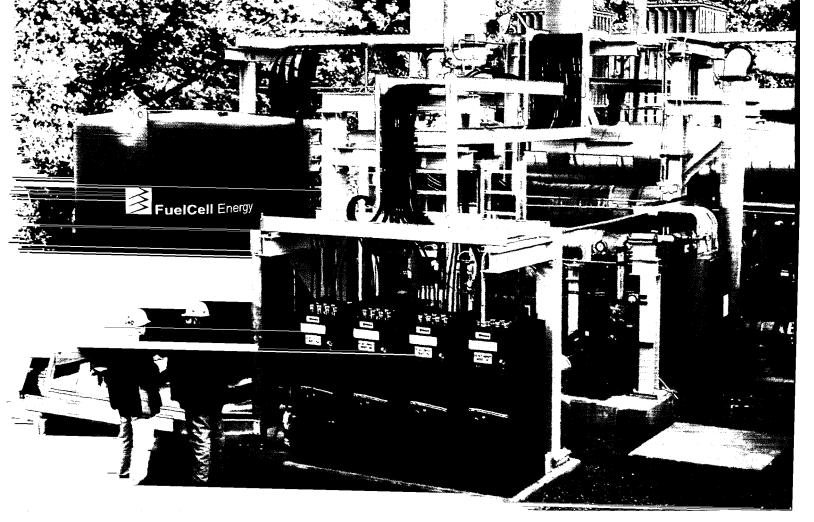
The MTU division of DaimlerChrysler in Germany announced seven additional orders for its sub-megawatt field trial units, including a combined heat and power unit at RWE, Germany's largest utility, and a direct current backup unit for a telecommunications center at Deutsche Telecom, Germany's largest telecommunications company. We continue to work closely with MTU on product improvements as our respective field trial programs advance toward commercialization.

Our Japanese partner, Marubeni Corporation, strengthened its relationship with us as well. In June, Marubeni invested \$10 million in FuelCell Energy and committed to an additional 3 MW of field trial units beyond the 1.25 MW ordered in 2000. In December 2001, Marubeni announced the siting of a 250 kW unit at the Kirin Brewery in Tokyo, Japan that will operate on the brewery's digester gases. We look forward to additional siting announcements in 2002.

These partnership additions and enhancements are further evidence of the validation of our fuel cell technology and the demand for this technology in the marketplace. We will continue discussions with other potential strategic partners in North America and worldwide during this year.

Financial Position Strengthened

We strengthened our financial position significantly with our follow-on equity offering in June. Net proceeds of \$241 million and Marubeni's \$10 million equity investment gives us a solid financial footing of \$290 million in cash and investments going into fiscal 2002. This should fund operations and the expansion of our manufacturing facility to 400 MW without the need to return to the capital markets.



MW Class Conditioning Facility

The MW class testing and conditioning facility in Danbury.

Stage is Set for Forward Progress - A Powerful Opportunity

We have set our 2002 milestones to focus on those strategic initiatives that will enhance our leadership position in distributed generation products for the commercial and industrial marketplace. Our specific milestones for 2002 are:

- · Determine the timing of the 50 MW manufacturing facility expansion to 150 MW,
- · Complete our sub-megawatt commercial field trial program and begin the field trials for our megawatt class units,
- · Develop our balance-of-plant supplier network for both the sub-megawatt and megawatt class power plants,
- Finalize our DFC/T "proof-of-concept" testing, complete the concept design of a 40 MW DFC/T plant, and develop the commercialization strategy for the 10-50 MW distributed generation products,
- Develop our existing distribution partners to capture the early market opportunities, and
- · Add additional distribution partners as needed to balance our marketing efforts.

We find ourselves well positioned to take advantage of distributed generation market opportunities in 2002. We continue to focus on what our customers need — clean, reliable and efficient fuel cell power plants. Now more than ever, the time is right for our Direct FuelCells.

Jerry D. Leitman

President, Chief Executive Officer

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Jerry D. Leitman
President, Chief Executive Officer

Dr. Hansraj C. Maru Executive Vice President, Chief Technology Officer

Christopher R. Bentley Executive Vice President, Chief Operating Officer Joseph G. Mahler Senior Vice President, Chief Financial Officer, Secretary, Treasurer

Herbert T. Nock Senior Vice President, Marketing and Sales

Directors

Jerry D. Leitman (1997) *
President, Chief Executive Officer

Dr. Bernard S. Baker (1970) * Chairman of the Board

Thomas L. Kempner (1988)
Chairman and Chief Executive Officer,
Loeb Partners Corporation

Christopher R. Bentley (1993) Executive Vice President, Chief Operating Officer

Warren D. Bagatelle (1988) * • Managing Director, Loeb Partners Corporation

William A. Lawson (1988) * ^
President, W.A. Lawson Associates

Dr. Hansraj C. Maru (1992) Executive Vice President, Chief Technology Officer

James D. Gerson (1992) ^ Vice President, Fahnestock & Co., Inc.

Michael Bode (1993) • Executive Vice President and Director, New Technology Group of MTU Friedrichshafen GmbH, an affiliate of DaimlerChrysler

John A. Rolls (2000) * •

President and Chief Executive Officer,
Thermion Systems International

Thomas R. Casten (2000) ^ Chairman and Chief Executive Officer, Private Power LLC

- * Executive Committee
- · Audit Committee
- ^ Compensation Committee

The following is a portion of our Annual Report on Form 10K as filed with the Securities and Exchange Commission.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 10-K

TORMI	V-1X
(Mark One) [X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15	(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended	: October 31, 2001
OR	
[] TRANSITION REPORT PURSUANT TO SECTION 13 OR	15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from	to
Commission File Nu	mber: 1-14204
FUELCELL EN	ERGY, INC.
(Exact name of registrant as	specified in its charter)
Delaware	06-0853042
(State or other jurisdiction of	(I.R.S. Employer
incorporation or organization)	Identification Number)
3 Great Pasture Road	
Danbury, Connecticut	06813
(Address of principal executive offices)	(Zip Code)
Registrant's telephone number, inclu	ding area code (203) 825-6000
Securities registered pursuant to None	
Securities registered pursuant to Common Stock, \$.0001 p (Title of c.)	par value per share
Indicate by check mark whether the registrant (1) has filed a Securities Exchange Act of 1934 during the preceding 12 mc required to file such reports), and (2) has been subject to such	onths (or for such shorter period that the registrant was
Indicate by check mark if disclosure of delinquent filers pur herein, and will not be contained, to the best of registrant's kn incorporated by reference in Part III of this Form 10-K or an	nowledge, in definitive proxy or information statements
The aggregate market value of voting stock held by non-affili which is based on the closing price of \$15.91 on January 2 shares of common stock of the registrant issued and outstand	5, 2002. On January 25, 2002 there were 39,090,078

DOCUMENTS INCORPORATED BY REFERENCE Certain information contained in the registrant's definitive proxy statement relating to its forthcoming 2002 Annual Meeting of Stockholders to be filed not later than 120 days after the end of registrant's fiscal year ended October 31, 2001 is incorporated by reference in Part III of this Annual Report on Form 10-K.

FUELCELL ENERGY, INC.

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Forward-looking Statement Disclaimer

When used in this Report, the words "expects", "anticipates", "estimates", "should", "will", "could", "would", "may", and similar expressions are intended to identify forward-looking statements. Such statements include statements relating to the development and commercialization schedule for our fuel cell technology and products, future funding under government research and development contracts, the expected cost competitiveness of our technology, and the timing and availability of products under development. These and other forward looking statements contained in this Report are subject to risks and uncertainties, known and unknown, that could cause actual results to differ materially from those forward-looking statements, including, without limitation, general risks associated with product development and introduction, changes in the utility regulatory environment, potential volatility of energy prices, government appropriations, the ability of the government to terminate its development contracts at any time, rapid technological change, and competition, as well as other risks contained under Item 1 "Business-Risk Factors" of our Annual Report on Form 10K as filed with the Securities and Exchange Commission. We cannot assure that we will be able to meet any of our development or commercialization schedules, that the government will appropriate the funds anticipated by us under our government contracts, that the government will not exercise its right to terminate any or all of our government contracts, that any of our products or technology, once developed, will be commercially successful, or that we will be able to achieve any other result anticipated in any other forward-looking statement contained herein. The forward-looking statements contained herein speak only as of the date of this Report. Except for ongoing obligations to disclose material information under the federal securities laws, we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any such statement to reflect any change in our expectations or any change in events, conditions or circumstances on which any such statement is based.

Background

Information contained in this Report concerning the electric power supply industry and the distributed generation market, our general expectations concerning this industry and this market, and our position within this industry are based on market research, industry publications, other publicly available information and on assumptions made by us based on this information and our knowledge of this industry and this market, which we believe to be reasonable. Although we believe that the market research, industry publications and other publicly available information are reliable, including the sources that we cite in this Annual Report, they have not been independently verified by us and, accordingly, we cannot assure you that such information is accurate in all material respects. Our estimates, particularly as they relate to our general expectations concerning the electric power supply industry and the distributed generation market, involve risks and uncertainties and are subject to change based on various factors, including those discussed under Item 1 "Business - Risk Factors" of our Annual Report on Form 10K as filed with the Securities and Exchange Commission.

As used in this Annual Report, all degrees refer to Fahrenheit (oF), and kilowatt and megawatt numbers designate nominal or rated capacity of the referenced power plant. As used in this Annual Report, "efficiency" or "electrical efficiency" means the ratio of the electrical energy (AC) generated in the conversion of a fuel to the total energy contained in the fuel; "overall energy efficiency" refers to efficiency based on the electrical output plus useful heat output of the power plant; "kilowatt" (kW) means 1,000 watts; "megawatt" (MW) means 1,000,000 watts; "megawatt hour" (MWh) is equal to 1 MW of power supplied to or taken from an electric circuit steadily for one hour; and "kilowatt hour" (kWh) is equal to 1 kW of power supplied to or taken from an electric circuit steadily for one hour.

Item 1. Business

Introduction

We are a leading developer of carbonate fuel cell technology for stationary power generation. We have designed and are beginning to commercialize fuel cell power plants that offer significant advantages compared to existing power generation technology. These advantages include higher fuel efficiency, significantly lower emissions, quieter operation, lower vibration, flexible siting and permitting requirements, scalability and potentially lower operating, maintenance and generation costs. We have conducted successful field trials of 250 kW and 2 MW units.

From our founding in 1969, we focused on developing fuel cells and specialized batteries. These efforts resulted in our obtaining various patents and expertise in these electrochemical technologies. For the last eighteen years, we have concentrated on developing products availing ourselves of substantial funding from the United States Department of Energy ("DOE"), the United States Department of Defense ("DOD"), and other sources such as MTU-Friedrichshafen GmbH ("MTU"), a division of DaimlerChrysler, to whom we have licensed our fuel cell technology internationally. Other equity investment partners include PPL Energy Services and Marubeni Corporation.

Our carbonate fuel cell, known as the Direct FuelCell®, is so named because of its ability to generate electricity directly from a hydrocarbon fuel, such as natural gas, by reforming the fuel inside the fuel cell to produce hydrogen. We believe that this "one-step" process results in a simpler, more efficient and cost-effective energy conversion system compared with external reforming fuel cells. External reforming fuel cells, such as proton exchange membrane (PEM) and phosphoric acid, generally use complex, external fuel processing equipment to convert the fuel into hydrogen. This external equipment increases capital cost and reduces electrical efficiency.

Our Direct FuelCell® has demonstrated grid-connected operation at Santa Clara in 1996 and 1997, in Danbury, CT from February of 1999 to June of 2000, at the University of Bielefeld in Bielefeld, Germany since November of 1999, at the Rhön-Klinikum Hospital in Bad Neustadt, Germany since May of 2001, at the Mercedes-Benz manufacturing facility in Tuscaloosa, Alabama, since July 2001 and at the downtown headquarters of the Los Angeles Department of Water and Power in Los Angeles, California since August 2001.

Our initial market entry commercial products will be rated at 250 kW, 1 MW and 2 MW in capacity. We expect our commercial products to mature to three configurations: 300 kW, 1.5 MW and 3 MW. Our products are targeted for utility, commercial and industrial customers in the growing distributed generation market for applications up to 10 MW. We are also developing new products, based on our existing power plant design, for applications in the 10 to 50 MW range. We expect to deliver power plants to the commercial market with our sub-megawatt class product in the second half of calendar year 2002 and with our megawatt class products by the end of calendar year 2002.

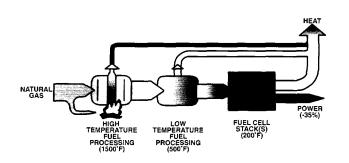
Based on the experience gained from nearly 40,000 operational hours of alpha testing of our units in our corporate labs and beta testing of our various commercial field trial units at customer sites, enhancements to our sub-megawatt fuel cell power plant in a revised model, DCF300A, were initiated ahead of internal expectations in an effort to accelerate the development of our commercial market-entry fuel cell power plant. Modifications are being incorporated in our next series of fuel cell power plant commercial field trials scheduled for delivery during the second calendar quarter of 2002. We will continue to make design enhancements as needed and incorporate them as our commercial field trial program advances to subsequent levels with the ultimate goal of quickly reaching our commercial market entry design. Design enhancements have already been incorporated in the megawatt class product that will begin alpha testing at our Danbury testing and conditioning facility early in calendar year 2002.

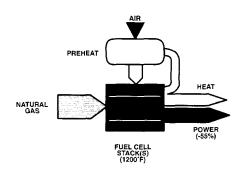
Our Direct FuelCell® has been demonstrated using a variety of hydrocarbon fuels, including natural gas, methanol, ethanol, biogas and coal gas. Our commercial Direct FuelCell® power plant products are expected to achieve an

electrical efficiency of between 47% and 57%. Depending on location, application and load size, we expect that a cogeneration configuration will reach an overall energy efficiency of between 70% and 80%. The following diagram shows the difference between a typical low temperature, external reforming fuel cell and our Direct FuelCell® in the conversion of fuel into electricity.

LOW TEMPERATURE EXTERNAL REFORMING FUEL CELL

HIGH TEMPERATURE INTERNAL REFORMING DIRECT FUEL CELL





Our designs use the basic single fuel cell stack incorporated in our sub-megawatt class product as the building block for our megawatt class products. All three of our products will offer the capability for co-generation using the high quality heat by-product for high-pressure steam, district heating and air conditioning.

We believe that our initial commercial sales will be to "early adopters." Energy users that are unable to or choose not to site traditional combustion-based generation or energy users that need more reliable electricity sources than provided by the grid or current diesel back-up generators and batteries may be willing to pay higher prices per kW to obtain the power that they need. We expect that these 'early adopters' will include energy users that are able to take advantage of government subsidies that provide funding for fuel cell installations. We believe examples of "early adopters" will be municipalities and commercial and industrial customers in pollution non-attainment zones, customers in grid constrained regions, customers with opportunity fuels such as waste water treatment gas, as well as co-generation and reliability applications such as hospitals, schools or universities. We believe that these initial customers will enable us to increase volume and subsequently implement our cost reduction plan. As a result, we believe we will eventually be able to provide a lower cost product and therefore achieve greater market potential with more traditional commercial and industrial customers.

Recent Developments

On January 8, 2002, we entered into a market development agreement with CMS Viron Energy Services to jointly pursue fuel cell projects in the State of California. Under the agreement, we will jointly market and sell DirectFuel Cell® power plants and perform project, customer and site development, system integration, permitting and project financing for those plants.

On December 27, 2001, we announced the siting of a 250 kW DFC power plant by our Japanese partner, Marubeni Corporation, at the Kirin brewery plant outside of Tokyo, Japan. The 250 kW DFC unit is to be operated in co-generation mode, using a methane-like digester gas produced from the effluent from Kirin's brewery process. The thermal output of the fuel cell will be used by the brewery.

On December 21, 2001, we announced the signing of a marketing development agreement with Chevron Energy Services L.P., a subsidiary of ChevronTexaco, to jointly pursue fuel cell projects. Under the agreement, FuelCell Energy and Chevron Energy Solutions will jointly market and sell DirectFuel Cell® power plants and will perform project, customer and site development, system integration, permitting and project financing. Initial projects will be targeted for development in the Northeastern United States and California.

On November 15, 2001, we announced the signing of an agreement with Caterpillar, Inc. (Caterpillar) to distribute ultra-low emission fuel cell products for industrial and commercial use. Under the agreement, Caterpillar will distribute our products through selected Caterpillar dealers in the United States. Both companies will also pursue an alliance to jointly develop fuel cell systems, including highly efficient hybrid products integrating Caterpillar's turbine engine technology.

Our Direct FuelCell® Technology

We have been developing fuel cell technology since our founding in 1969 and carbonate fuel cells since the mid-1970s. Fuel cell systems represent an environmentally friendly alternative power generation source when compared to traditional combustion technologies, such as gas turbines or internal combustion engines that can potentially yield a lower cost of electricity, primarily because of lower fuel and maintenance costs. A fuel cell converts a hydrocarbon fuel, such as natural gas, into electricity without combustion of the fuel. The only by-products of the fuel cell are heat and water and reduced emissions of carbon dioxide.

A fuel cell power plant can be thought of as having two basic segments: the fuel cell stack module, the part that actually produces the electricity, and the "balance of plant" ("BOP"), which includes various fuel handling and processing equipment, including pipes and blowers, computer controls, inverters to convert the DC output of the fuel cell to AC and other related equipment.

Conventional non-nuclear power plants burn a hydrocarbon fuel, such as coal, oil or natural gas, to create heat. The heat boils water, converting it to steam, which rotates a turbine, which produces electricity. Some large power plants use a combined cycle approach where the gas is fired in the turbines and the exhaust heat produces steam, which generates additional power in steam turbines. Each step in these processes consumes some of the potential energy in the fuel, and the combustion process typically creates emissions of sulfur and nitrogen oxides, carbon monoxide, soot and other air pollutants.

Because of the non-combustion, non-mechanical power generation process, fuel cells are more efficient than comparable conventional power plants. Emissions of sulfur and nitrogen oxides from fuel cells are nearly zero, and other pollutants are minimal or non-existent. With the only moving parts being the air blower, in contrast to large rotating turbines, fuel cells are quieter than these turbines. Also, since they are quieter than other power generation sources, fuel cells can be located near the customer and provide both electrical and thermal energy. In addition, fuel cells typically achieve high efficiency at extremely small sizes, allowing fuel cells to satisfy the needs of the distributed generation market, such as providing electrical power to a hospital or a commercial building.

The following table shows our estimates of the electrical efficiency, operating temperature, proposed capacity range and certain other operating characteristics of single cycle PEM, phosphoric acid, carbonate (Direct FuelCell®) and solid oxide fuel cells operating on hydrocarbon fuels such as natural gas:

Fuel Cell Type	Electrolyte	Electrical Efficiency %	Operating Temperature °F	Proposed Capacity Range	By Product Heat Use
PEM	Polymer Membrane	30-35	180	5 kW to 250 kW	Warm Water
Phosphoric Acid	Phosphoric Acid	35-40	400	50 kW to 200 kW	Hot Water
Carbonate (Direct FuelCell®)	Potassium/Lithium Carbonate	47-57	1200	250 kW to 3 MW	High Pressure Steam
Solid Oxide	Stabilized Zirconium dioxide Ceramic	45-50	1800	3 kW to 3 MW	High Pressure Steam

Our carbonate fuel cell, known as the Direct FuelCell®, operates at approximately 1200°F, which is a higher temperature than most other fuel cells. This is an optimal temperature that avoids the use of precious metal electrodes required by lower temperature fuel cells, such as PEM and phosphoric acid, and the more expensive metals and ceramic materials required by higher temperature fuel cells, such as solid oxide. As a result, less expensive electrocatalysts and readily available metals are used in our design and high quality by-product heat energy is available for co-generation.

Our Direct FuelCell® is so named because of its ability to generate electricity directly from a hydrocarbon fuel, such as natural gas, by reforming the fuel inside the fuel cell to produce hydrogen. We believe that this "one-step" process results in a simpler, more efficient and cost-effective energy conversion system compared with external reforming fuel cells. External reforming fuel cells, such as PEM and phosphoric acid, generally use complex, external fuel processing equipment to convert the fuel into hydrogen. This external equipment increases capital cost and reduces electrical efficiency.

Our Direct FuelCell® has been demonstrated using a variety of hydrocarbon fuels, including natural gas, methanol, ethanol, biogas and coal gas. Our commercial Direct FuelCell® power plant products are expected to achieve an electrical efficiency of between 47% and 57%. Depending on location, application and load size, we expect that a co-generation configuration will reach an overall energy efficiency of between 70% and 80%.

Market Opportunities for Distributed Generation

According to the DOE's report Energy Information Administration Energy Outlook 2002, a projected 355,000 MW of new generating capacity will be needed by 2020 to meet the growing demand for electricity in the United States and to offset planned retirements of existing generating capacity. It is estimated that up to 37% of this new capacity will be fulfilled through distributed generation technologies. We believe that through 2020 approximately \$300 to \$500 billion of facilities and equipment for new generating capacity and for replacement of retired capacity will be required to meet the growing demand for electricity in the United States. Reliance upon the existing infrastructure

has been and continues to be problematic due to capacity constraints, environmental concerns and other issues. In addition, utility deregulation is creating new challenges and opportunities in the electric power supply industry. This evolving competitive industry environment, coupled with the consumer demand for more reliable, accessible and competitively priced sources of electric power, is driving traditional energy providers to develop new strategies and seek new technologies for electricity generation, transmission and distribution.

One solution to meet the growing worldwide demand for electricity is distributed generation.

The Distributed Power Coalition of America defines distributed generation as "any small scale power generation technology that provides electric power at a site closer to customers than central station generation." Distributed generation should play a growing role in electricity generation in the United States and around the world.

Electricity deregulation, resulting in part from the Energy Policy Act of 1999, calls for open access for consumers. In deregulation, the traditional electric utilities will no longer be integrated providers of electricity to a captive geographic area. Most deregulation policies focus on separating the utility's three business lines (generation, transmission/distribution and marketing). Most legislation intends to create competitive markets in the generation and marketing of power while leaving the distribution function as a regulated operation, much the way natural gas was deregulated in the late 1980s and early 1990s. Thus, deregulation will allow new entrants into the electricity generation business, as customers will be free to choose power producers and marketers. In addition, "green power" initiatives and pollution credit legislation associated with deregulation favor clean fuel cell power plants.

Accelerating the growth of distributed generation, is the rapid improvement of electricity generation technology, especially small gas turbines and fuel cells. These improvements have resulted in lower costs for smaller operating units and increased operating efficiency, allowing these technologies to begin to become cost competitive with traditional grid-based electrical generation.

Today's increasingly digital economy needs to have reliable power, often referred to as "high nines" reliability. Some modern electrical components are intolerant of voltage surges, sags or spikes and power interruptions can cause computers and other sensitive equipment to be out of service for prolonged periods of time or cause the loss of data entirely. A 1999 study by the Electric Power Research Institute estimated that electric power problems annually cost U.S. industry more than \$30 billion. In March 2000, the DOE released a report of the findings and recommendations of its Power Outage Study Team, which included removing barriers to distributed generation and adopting energy efficient technologies. Distributed generation technology, and fuel cells in particular, may promise power that is more reliable and less susceptible to disturbances due to its proximity to the user and the nature of its electrochemical generation.

Capacity constraints are becoming more common. We believe that expansion of the existing electricity infrastructure may not reliably meet growth in the demand for electricity. Electric power demand is increasing as a function of global technology and population expansion and as a substitute for other energy sources. According to industry sources, capacity reserve margins, which represent the amount of excess generation capacity available during peak usage periods, have decreased in the United States from 33% in 1982 to 14% in the summer of 1999. According to the report titled "Electricity Technology Roadmap: Powering Progress," electricity now accounts for about 40% of total energy used in the US and other countries with similar economic development. In addition, global electrification has the potential to reduce resource consumption growth by up to 50% by 2050. Increasing the existing and aging infrastructure to address the increasing demand for electricity will be capital intensive, time consuming and may be restricted by environmental concerns. Fuel cells could be a key element in resolving electric power shortages through distributed generation in areas such as California.

An increasing worldwide awareness of environmental issues, especially air pollution, is becoming an important driver. One step to reducing air pollution is cutting down on the amount of electricity generated by oil and coal-fired power plants burning hydrocarbon fuels. Fuel cells use natural gas, biogas, diesel and other fuels without combustion. Fuel cells are one of the cleanest methods for generating electric power.

Security has become more paramount given the terrorist attacks of 2001. A significant concern has been the integrity of our large central power plant generation stations, especially nuclear power plants, and power and communications infrastructure as targets for subsequent terrorist attacks. Fuel cells as part of distributed generation can help to alleviate these concerns.

In addition to security issues, political turmoil abroad has heightened interest on reducing our dependence on foreign oil, especially from the Middle East. The Bush Energy Proposal, announced in May 2001 and likely to become a focal point of discussion in 2002, has given considerable attention to alternative energy. Fuel cells, which operate on hydrogen-based fuels such as natural gas, help to satisfy this objective.

Many governments at various levels, both here in the U.S. and abroad, are proactively pursuing programs and subsidies to stimulate the development of alternative energy generation in general and fuel cells in particular. Here in the United States there are approximately 15 states with incentive programs for fuel cell power plants totaling several hundred million dollars. Some specific U.S. funding incentives and programs include:

California –The state has established the California Consumer Power and Financing Authority to pursue expeditious means of increasing generating capacity and increasing the role of renewable resources and cleaner, more efficient generation technologies. The California Consumer Power and Financing Authority has established a multi-faceted alternative energy program that includes 370 megawatts of fuel cells through 2005. We have submitted applications, through our distribution partners, for qualified bidder status for this program.

Massachusetts – The Massachusetts Technology Park Corporation (MTPC) will provide grants to cover up to 25 percent of the total capital costs of a premium power system to a maximum of \$2 million per project. A total of \$5 million is currently available under this solicitation and MTPC plans to issue additional solicitations for installation grants under the Premium Power program, representing a total commitment for \$15 million through June 30, 2002. The U.S. Coast Guard fuel cell project being arranged through our distribution partner, PPL Energy Plus, received a grant from this fund of \$425,000 for the installation of one of our 250 kilowatt fuel cell field trial units.

New Jersey – The New Jersey Board of Public Utilities announced in March 2001 a three-year proposal totaling more than \$358 million in funding for new energy efficiency and renewable energy programs. Funding for renewal energy projects, which includes fuel cells, provides for a rebate program administered by the state's utilities. Currently, rebates range from \$5.00/watt for small projects (less than 10 kilowatts) to \$3.00/watt for large projects (greater than 100 kilowatts) with a maximum rebate of 60 percent of total project cost.

Connecticut – The Connecticut Clean Energy Fund established a Fuel Cell Initiative for fuel cell projects in 2002. Together with \$1 million from Connecticut's Conservation Load and Management Fund, a total of \$6 million is committed to fuel cell projects in the program's first year. Enacted in 1998, The Connecticut Clean Energy Fund will generate \$118 million over a five-year time period derived from a utility surcharge that will ramp up from 0.5 mill/kWh in 2000/2001 to 1.0 mill/kWh from 2004 forward. Funds can be used for grants, direct or equity investments, contracts or other actions which support research, development, manufacture, commercialization, deployment and installation of renewable energy technologies.

Texas – A Fuel Cell Commercialization Initiative has been established to develop a statewide plan to accelerate the commercialization of fuel cells in Texas. The ten month program, initiated in November 2001 and headed up by the State Energy Conservation Office, will enlist the guidance of fuel cell companies, energy services companies, utilities and state and local agencies to look for ways to encourage the manufacture, marketing and installation of fuel cells in residential, commercial and industrial applications. The State Energy Conservation Office is expected to submit a fuel cell commercialization plan to the legislature no later than September 15, 2002.

National government incentives and programs are being initiated outside the U.S. as well, and of particular note are those that involve our German partner, the MTU division of Daimler Chrysler, and our Japanese partner, the Marubeni Corporation. In Germany, it is expected that legislation will pass in 2002 that will allow up to a 5 eurocent per kilowatt hour credit for up to 2 megawatt combined heat and power fuel cell power plants that are connected to the grid. Initiatives are developing in Japan with respect to industrial wastewater treatment facilities intended to stimulate related distributed generation projects, including fuel cells.

In its 1999 report on *Small Scale Power Generation*, Business Communications Co., Inc. states that fuel cells have emerged as one of the most promising technologies for meeting the growing worldwide energy needs. They project that during the period between 1998 and 2003, distributed generation will grow at an average annual rate of 14.9% in the United States and 28.4% worldwide, and that the total annual market in 2003 for fuel cells can be expected

to reach \$1.1 billion in the United States. We expect this trend to grow beyond 2003 as fuel cells gain market acceptance and fuel cell product cost begins to challenge the product cost of traditional generating technologies. We believe that the growth of the distributed generation market combined with the continuing deregulation of the utility industry, and the increasing demands for higher efficiency, higher quality, more reliable, more environmentally friendly and lower cost power generation capacity, provide market opportunities for our Direct FuelCell® products.

Our Products and Target Markets

Our initial market entry commercial products will be rated at 250 kW, 1 MW and 2 MW in capacity. We expect our commercial products to mature to three configurations: 300 kW, 1.5 MW and 3 MW. Our products are targeted for utility, commercial and industrial customers in the growing distributed generation market for applications up to 10 MW. We are also developing new products, based on our existing power plant design, for applications in the 10 to 50 MW range. Our designs use the basic single fuel cell stack incorporated in our sub-megawatt class product as the building block for our megawatt class products. All three of our products will offer the capability for co-generation where the heat by-product is suitable for high-pressure steam, district heating and air conditioning.

Our sub-megawatt class product is a skid-mounted, compact power plant that could be used to power a light industrial or commercial facility, 100 home subdivision or other similar sized applications. Additional units could subsequently be added to meet incremental demand growth. We expect to begin delivering commercial sub-megawatt class product to the market in the second half of calendar year 2002.

Customers with larger power requirements will look to our megawatt-class power plants that combine several fuel cell stacks to provide increased power output. The megawatt class products are designed to meet the power requirements of customers such as industrial facilities, data centers, shopping centers, wastewater treatment plants, office buildings, hospitals and hotels. We expect to bring our megawatt class products to market in the latter part of calendar year 2002.

We expect that the initial capital cost of our Direct FuelCell® power plant products will be higher on a per kW basis than that of alternative power generation sources, such as gas turbines. We believe, however, that once our products have achieved full and sustained commercial production, as discussed below, the higher projected efficiency of our products (and the resulting lower total fuel costs) will make the cost of generating electricity using our Direct FuelCell® power plants competitive with the cost of generating electricity using other alternative power generation technologies.

We are targeting our initial commercialization efforts for the following stationary power applications:

- customers in regions where air pollution requirements are particularly strict;
- those seeking to address electric grid distribution or transmission shortages or congestion;
- industrial and commercial customers who can make use of the high quality heat by-product for co-generation;
- customers with opportunity fuels such as wastewater treatment gas or other waste gases from municipal and industrial processes;
- utility and non-utility power producers who want to improve their knowledge of fuel cell technology; and customers who possess several of the above characteristics.

Our commercialization efforts after these initial applications will largely depend on how the distributed generation market develops as well as on our ability to lower the cost of our products. We believe our efforts will continue to focus on commercial and industrial end markets where self-generation is a viable option. We will focus on energy service providers, specialty distributors and original equipment manufacturers (OEMs) as potential buyers and

distributors of our products. Utilities are also potential customers, as they will need to add generating capacity to meet increasing demand.

In connection with the DOE's Vision 21 program, we are designing a 40 MW ultra-high efficiency power system that will combine our Direct FuelCell® and a gas turbine that we expect will compete for applications between 10 and 50 MW in the distributed generation market. In addition, because of the ability to operate on a variety of hydrocarbon fuels, we are currently developing in conjunction with the U.S. Navy, a Direct FuelCell® power plant to provide power to ships using diesel fuel. An additional, related market would be the cruise ship industry, which we believe has substantial "hotel" power needs. We believe that all the power required by a cruise ship, except for propulsion, could be provided by a diesel-powered Direct FuelCell® power plant. Many island communities that have limited natural gas or similar resources and rely on the use of diesel fuel for the generation of electricity could also use a diesel-powered fuel cell.

We believe that the advantages of our Direct FuelCell® technology include the following:

- High Efficiency. The high efficiency, internal fuel reforming system incorporated within our Direct FuelCell® leads to a simpler, more cost-effective power plant with superior operating characteristics that offer a variety of benefits to energy providers and end users. The elimination of external reforming contributes to higher operating efficiency, lower fuel use and, therefore, lower operating costs compared to competing fuel cell technologies.
- Optimal Operating Temperature. Our Direct FuelCell® operates at a temperature of approximately 1200°F.
 This temperature generates high quality by-product heat that provides superior energy efficiencies and allows the use of multiple fuels. This operating temperature avoids combustion of the fuel, and as a result, reduces pollutants to a minimal level. It also allows the fuel cell to be built with less expensive and commonly available materials.
- Atmospheric Pressure. Our Direct FuelCell® operates at atmospheric pressure. This enables it to be constructed at a lower cost than other fuel cell systems, such as PEM and solid oxide that operate in a pressurized environment. This also allows our Direct FuelCell® to operate unattended, with lower maintenance requirements, and greatly enhances the fuel cell stack operating lifetime.
- Multiple Fuel Capacity. Because of the internal fuel reforming system and the high operating temperature, our Direct FuelCell® has the capability to operate using multiple fuel sources, including natural gas, oil, gasoline, diesel, propane, methanol, ethanol, biogas and coal gas. We think that this provides a distinct competitive advantage in that it enables our Direct FuelCell® to be used in a variety of applications where the supply or delivery of natural gas is limited.
- Scalability. Our power plant design is modular, allowing several units to be combined to provide incremental power capabilities. This allows our Direct FuelCell® to be utilized by a wide range of customers with different power needs.

Our Fuel Cell Development Program

Field Trials and Demonstration Projects. We have extensive experience in testing our products in a variety of conditions and settings and on a range of fuels. Some significant demonstrations include the following:

Santa Clara Demonstration Project. During 1996 and 1997, we operated our "proof-of-concept" megawatt scale fuel cell plant in Santa Clara, California. The Santa Clara plant achieved a peak power output of 1.93 MW, 7% above rated power, and an electrical efficiency of 44%, a record for a single cycle fossil fuel power plant of this kind. The Santa Clara plant also achieved record low emissions of sulfur and nitrogen oxides. The demonstration involved the largest carbonate fuel cell power plant in the world and the largest fuel cell of any type operated in the United States.

The Santa Clara plant operated at various electrical outputs for almost one year and was connected to the utility grid for half of that time. Despite encountering equipment problems unrelated to the basic fuel cell technology, the Santa Clara plant achieved most of the goals that we set for the project and established new milestones. After operation of the Santa Clara plant ended in March 1997, all of the fuel cell stacks were returned to us for comprehensive analysis. We used the results of this analysis, along with the results of ongoing research and development activities, to develop a commercial fuel cell design significantly more compact, reliable and cost-effective than the Santa Clara plant design. The fuel cell stack design used at the Danbury, Connecticut and Bielefeld, Germany sites were developed with cells that are approximately 50% larger in area, 40% lighter per unit area and 30% thinner than the Santa Clara plant design. These improvements have doubled the power output from a fuel cell stack. Our current fuel cell power plant design will be capable of producing the same output as the Santa Clara plant with a footprint one-ninth as large. We believe that this reduction in size and increase in power per fuel cell stack will result in significant manufacturing cost savings.

Commercial Design Endurance Project. Between April 1998 and July 2000, we operated an 8 kW multiple fuel commercial design fuel cell located at our Danbury, Connecticut facility. This unit generated electricity for approximately 17,500 hours. This project, together with other test data, enables us to project expected commercial performance.

Danbury Project. In February 1999, we began operating a 250 kW Direct FuelCell® grid-connected power plant at our headquarters in Danbury, Connecticut. The plant operated on pipeline natural gas and ran for approximately 11,800 hours before being disconnected for a scheduled evaluation. In March 1999, the plant reached maximum power of 263 kW, which we believe to be the highest ever produced by a single carbonate fuel cell stack. Before being disconnected, this power plant delivered approximately 1.9 million kWh to our Danbury facility and demonstrated a wear rate of 0.3% per 1,000 hours. The ruggedness of this product design was demonstrated in planned stress tests, such as rapid ramp-up and thermal cycling tests and simulated emergency fuel loss. These tests verified that the Direct FuelCell® could be maintained in the field despite operating stresses and fuel supply and power failures, without decreasing performance, meeting our expectations and projections.

Bielefeld, Germany Project. In November 1999, MTU, a licensee of our technology, commissioned a 250 kW power plant at the University of Bielefeld in Bielefeld, Germany. The power plant is a skid-based, sub-megawatt power plant designed by MTU that incorporates our Direct FuelCell® as its fuel cell component. The Bielefeld plant has achieved a peak electrical efficiency of 47%. Employing co-generation applications that use the heat by-product to produce process steam for the University and district heating, the plant has achieved an overall energy efficiency of 77%.

Rhön Clinic Project. The State of Bavaria, the Rhönklinikum AG Bad Neustadt/S, a public company operating approximately 40 German hospitals, the local gas supplier, Ferngas Nordbayern GmbH, and MTU are operating a 250 kW power plant designed by MTU that incorporates our Direct FuelCell® as its fuel cell component. The purpose of this field trial is to demonstrate the viability of a fuel cell power plant in a hospital environment. The power plant was commissioned and began operation in May 2001. The electrical power is being fed into the local clinic grid and the hot exhaust air is used to produce process steam for clinic use.

Southern Company Services, Inc. — Alabama Municipal Electric Authority — Mercedes-Benz U.S. International, Inc. In conjunction with Southern Company Services, Inc. (Southern), the Alabama Municipal Electric Authority (AMEA) and Mercedes-Benz U.S. International, Inc. (Mercedes-Benz), we have agreed to build and install a 250 kW fuel cell power plant at the Mercedes-Benz facility in Tuscaloosa, Alabama utilizing MTU's design. We delivered the unit to the customer site in July 2001. Southern and AMEA have each contributed \$1 million to this project, and have options to negotiate exclusive arrangements with us for the sale, distribution and service of our Direct FuelCell® power plants in several southern states that must be exercised upon completion of the demonstration.

Los Angeles Department of Water and Power. In August 1999, LADWP selected us to install a 250 kW Direct FuelCell® power plant at its headquarters in Los Angeles. The installation of this power plant will help LADWP gain knowledge and experience in the installation, maintenance and operation of fuel cell power plants. The agreement we entered into in May 2000 provides for LADWP to contribute \$2.4 million to this project. This field demonstration unit was delivered to the customer site in July 2001. Under this agreement, we are required to pay LADWP annual royalties of 2% of net sales revenues, beginning when sales of fuel cells reach 50 MW per year, and continuing until the earlier of termination of the agreement or the payment to LADWP of \$5 million in royalties.

In October 2000, we entered into a second agreement to provide LADWP with two additional 250 kW Direct FuelCell® power plants. This agreement provides for LADWP to pay \$2.45 million for these two power plants on an installment basis. This agreement terminates in March 2003.

DFC/T® Power Plant: In July of 2001, we commenced operations of a DFC/T® power plant based on a 250 kW Direct FuelCell® integrated with a Capstone Turbine Corporation modified Model 330 Microturbine. The combined system does not require any combustion in the turbine. The U.S. Department of Energy through its Office of Fossil Energy is funding the first-of-a-kind test of the high efficiency DFC/T® power plant. The National Energy Technology Laboratory, as part of the DOE's Vision 21 program, manages the cooperative agreement.

The power plant is designed to operate in a dual mode: as a stand-alone fuel cell system or in combination with a microturbine. Heat generated by the fuel cell is used as the fuel to drive the modified microturbine to generate additional electricity. The testing to date has verified the operability of the combined system. This proof-of-concept demonstration will provide information to design a 40 MW DFC/T® power plant that is expected to approach the 75 percent efficiency goal as specified by the Vision 21 program, as well as to serve as a platform for high efficiency DFC/T® in smaller sizes.

Planned Field Trials and Demonstration Projects. We expect to conduct various field trial projects with the goal of quickly reaching our commercial market-entry fuel cell power plants. Based on the experience gained from testing our various commercial field trial units at customer and Company sites, enhancements to our sub-megawatt fuel cell power plant were initiated and will be incorporated in our next series of fuel cell power plant commercial field trials. In addition to the two 250 kilowatt units on order from the Los Angeles Department of Water and Power, projects in our backlog include the following:

Global Energy Clean Coal Project. In late 1999, the DOE transferred a long-standing clean coal project to a wholly owned subsidiary of Global Energy, Inc.; a Cincinnati based independent power producer. This project is one of the largest power plant projects in the federal clean coal technology program, and is the first clean coal technology plant to employ a fuel cell. The objective of this project is to demonstrate an innovative coal gasification technology along with a megawatt class carbonate fuel cell power plant. The clean, low-cost fuel generated by this process will be used to fire gas turbines and to demonstrate the operation of a 2 MW fuel cell power plant. The 2 MW fuel cell power plant is part of a \$432 million, 400 MW project funded in part by the DOE. We are named in the project contract as the supplier of the fuel cell technology, and have entered into a sub-contract for the design, construction and operation of the 2 MW fuel cell power plant. We expect this fuel cell power plant to be operational in 2003, however permitting or financing issues relating to the coal gasification plant could delay our schedule. Under the \$34 million program, up to \$17 million in DOE funding will be available to us, subject to the annual congressional appropriations process. We plan to fund internally the remaining cost of the power plant.

Ohio Coal Mine Methane Project. In October 2000, the DOE's National Energy Technology Laboratory selected us to design, construct and operate a 250 kW Direct FuelCell® power plant, utilizing coal mine methane gas, at the Harrison Mining Corporation coal mine in Cadiz, Ohio. The \$5.4 million cost for the three-year program will be shared equally by the DOE and us, subject to the annual congressional appropriations process. We were selected for this project to demonstrate the ability of our Direct FuelCell® to generate electricity using coal mine methane emissions that otherwise escape into the atmosphere. We anticipate delivery of this Direct FuelCell® power plant in the second calendar quarter of 2002.

King County, Washington. In January of 2001, we signed an agreement with King County, Washington to deliver a 1 MW Direct FuelCell® power plant using municipal digester gas. We anticipate delivery of this Direct FuelCell® power plant in the fourth calendar quarter of 2002. The two-year demonstration project will be cost-shared equally by King County, through a cooperative grant to the county from the Environmental Protection Agency, and us. The total value of the contract is approximately \$18.8 million (of which approximately \$9.4 million will be funded by us).

Connecticut Innovations. In August of 2001, we received a \$1.25 million contract from the Connecticut Clean Energy Fund (which is managed by Connecticut Innovations, Inc.) for a 250 kW Direct FuelCell® power plant for the State of Connecticut. The power plant is slated for delivery in 2002 for installation at the University of Connecticut.

PPL. In October of 2001, we received an order from PPL Spectrum, Inc., a subsidiary of PPL, for a 250 kW Direct FuelCell® power plant slated for installation at the United States Coast Guard Air Station Cape Cod located in Bourne, Massachusetts. The power plant will provide electricity and heating for the base, which includes barracks, hangars and administrative buildings. The power plant is expected to be installed in the first half of calendar year 2002. The contract value is \$1.25 million.

As part of this recent siting announcement, PPL increased its commitment for fuel cell power plants to 1.75 megawatts, ordering an additional 2 units.

MTU. In September 2001, MTU announced it would deliver seven new fuel cell plants in Europe starting in 2002. The 250 kW plants are based on our Direct FuelCell® technology and will utilize fuel cells manufactured at our Torrington, Connecticut facility.

The locations include:

RWE: Heat and power at an energy park.
IZAR: Energy for this ship building company.

- **Deutsche Telecom:** DC back-up power for a telecommunications center.

EnBW/Michelin: Electricity and process steam for a tire manufacturing plant.
 E-on/Degussa: Generation of power, heat and CO2 gas for industrial usage.

- **IPF KG:** Back-up power and co-generation for the Otto-v-Guericke University

Medical Institute.

- VSE AG: Co-generation for industrial laundry and CO2 use for

greenhouse fertilization.

Marubeni. In June 2001, Marubeni entered into a comprehensive strategic agreement and committed to order an additional 3 megawatts of fuel cell power plants in addition to the 1.25 megawatts ordered in 2000. In December 2001, Marubeni announced the siting of its first commercial field trial unit, a 250 kilowatt fuel cell power plant to be delivered to the Kirin Brewery in Japan located outside of Tokyo. The unit will operate in co-generation mode, with the thermal output of the fuel cell to be used by the anaerobic digester, which treats the brewery effluent.

U.S. Navy. In May 2000, the U.S. Navy selected us for a \$16.5 million project (\$12.8 million of which will be funded by the Navy) to continue development work leading to a 625 kW land based demonstration at the Philadelphia Navy Yard, which is expected to be delivered in 2003.

Principal Government Research and Development Contracts

Since 1976, we have worked on the development of our Direct FuelCell® technology with various United States government agencies, including the DOE, the Navy, the Coast Guard, the Department of Defense, the Defense Advance Research Projects Agency and the National Aeronautics and Space Administration. Our revenues have

been principally derived from U.S. government and industry research and development contracts. Government funding, principally from the DOE, provided approximately 78%, 87% and 87% of our revenue for the fiscal years ended 2001, 2000 and 1999, respectively. From the inception of our carbonate fuel cell development program in the mid-1970s to date, approximately \$370 million has been invested via DOE and related utility programs to support the development, demonstration and field testing of our Direct FuelCell® technology. This includes funding we have received from the DOE of approximately \$219 million. We have complemented the DOE's funding with additional support from a variety of other sources that have contributed approximately \$150 million.

We have historically performed our services under government-funded contracts or agreements that usually require performance over a period of one to five years and often require cost share funding as a condition to receiving any amounts allocated under these agreements. However, congressional budget limits could prolong the contracts. Generally, our U.S. government research and development contracts are subject to the risk of termination at the convenience of the contracting agency. Furthermore, these contracts, irrespective of the amounts allocated by the contracting agency, are subject to annual congressional appropriations and the results of government or agency sponsored audits of our cost reduction efforts and our cost projections. We can only receive funds under contracts ultimately made available to us annually by Congress as a result of the appropriations process.

We currently receive our government funding primarily from a cooperative agreement with the DOE. This agreement covers the design, scale up, construction and testing of carbonate fuel cells operating on natural gas. Major development emphasis under this agreement focuses on fuel cell and total power plant cost reduction and improved endurance.

We entered into the original cooperative agreement with the DOE in 1994. This agreement was extended in 2000 for three additional years, through 2003, to provide \$40 million of funding over this period, subject to annual approval by the U.S. Congress. Of that amount, \$26 million remains to be funded by the DOE (excluding our cost sharing requirements of \$13 million). The current aggregate dollar amount of the DOE contract is \$213 million, with the DOE providing \$135 million in funding. As a condition to receiving any amounts allocated under this agreement, the balance of the funding must be provided by us, our partners or licensees, other private agencies and utilities, including any amounts spent by our customers and other third parties on development, field test and demonstration projects.

The U.S. government and the DOE have certain rights relating to our intellectual property as described under "Proprietary Rights." Lastly, under this cooperative agreement, we must pay the DOE 10% of all license and royal-ty income received from MTU, up to a total of \$500,000.

Since 1989, the DOE has also granted us numerous Small Business Innovation Research awards and other awards to research and develop various aspects of carbonate fuel cell components and PEM fuel cells.

In May 2000, the DOE, under the Vision 21 Program, selected us for a \$3.1 million project (\$2.4 million of which will be funded by the DOE) to develop a high efficiency fuel cell and key system components, and to perform a subscale test of a fuel cell/turbine system utilizing a 250 kW Direct FuelCell®. We commenced this test on July 31, 2001, at our headquarters in Danbury, Connecticut. The testing to date has verified the operability of the combined system. Under the Vision 21 Program, we will also be designing a 40 MW ultra-high efficiency, fuel cell/ turbine power plant based on our existing Direct FuelCell® technology.

Currently we are working on Direct FuelCell® power plants for marine applications under programs with the U.S. Navy. These power plants are required to operate on liquid fuels such as diesel. We have already produced a fuel cell-compatible fuel from marine diesel using a compact fuel processing system. In 1999, a sub-scale fuel stack was tested on this fuel under conditions simulating marine requirements. Another sub-scale stack was successfully tested for shock and vibration tolerance. In May 2000, the U.S. Navy selected us for a \$16.5 million project (\$12.8 million of which will be funded by the Navy) to continue development work under Phase II of this program, leading to a 625 kW land based demonstration at the Philadelphia Navy Yard, which is expected to be delivered in 2003.

Strategic Alliances and License Agreements

In 2001 and 2000, we entered into significant strategic alliances with Marubeni, Enron North America, and PPL EnergyPlus LLC (PPL), a subsidiary of PPL Corporation. We have also recently entered into market development agreements with CMS Viron Energy Services, Caterpillar, Inc., and Chevron Energy Solutions L.P.

CMS Viron. On January 8, 2002, we entered into a market development agreement with CMS Viron Energy Services to jointly pursue fuel cell projects in the State of California. Under the agreement, we will jointly market and sell DirectFuel Cell® power plants and will perform project, customer and site development, system integration, permitting and project financing for those plants.

Chevron Energy Services. On December 21, 2001, we announced the signing of a marketing development agreement with Chevron Energy Services L.P., a subsidiary of ChevronTexaco, to jointly pursue fuel cell projects. Under the agreement, FuelCell Energy and Chevron Energy Solutions will jointly market and sell DirectFuel Cell® power plants and will perform project, customer and site development, system integration, permitting and project financing. Initial projects will be targeted for development in the Northeastern United States and California.

Caterpillar. On November 15, 2001, we announced the signing of an agreement with Caterpillar to distribute ultralow emission fuel cell products for industrial and commercial use. Under the agreement, Caterpillar will distribute our products through selected Caterpillar dealers in the United States. Both companies will also pursue an alliance to jointly develop fuel cell systems, including highly efficient hybrid products integrating Caterpillar's turbine engine technology.

Marubeni. On June 18, 2001, we announced the signing of a comprehensive strategic alliance agreement with Marubeni. Under the agreement, Marubeni will initially order 3 MW of Direct FuelCell® power plants, in addition to the 1.25 megawatts previously ordered, and is targeting orders of at least 45 MW over the next two years in Japan and Asia. We plan to form a joint venture with Marubeni for the purpose of assembling Direct FuelCell® modules in Asia from fuel cells provided by us.

Marubeni has invested \$10 million in FuelCell Energy through the purchase of 268,114 shares of our common stock and is expected to invest an additional \$30 million over the term of the agreement. In addition, we have granted Marubeni four warrants, each to purchase 475,000 shares of our common stock, with exercise prices ranging from approximately \$37 to \$48 per share. These warrants will vest over the next two years, based on Marubeni reaching 45 MW of orders for Direct FuelCell® power plants. For accounting purposes, we expect that the fair value of these warrants will be netted against the revenues attributable to the purchase of our products by Marubeni. The warrants will expire in September 2003.

Enron. In September 2000, we entered into a non-exclusive cooperative alliance agreement with Enron pursuant to which we agreed to provide Enron access to our customers and to work with us on the development and placement of our products. In connection with this alliance agreement, an affiliate of Enron purchased 160,580 shares of our common stock for \$5 million. In January 2002, Enron commenced bankruptcy proceedings.

PPL. In September 2000, we entered into a distributor agreement with PPL pursuant to which PPL agreed to become the first distributor of our Direct FuelCell® products in North America. PPL has agreed to use its reasonable efforts to promote and sell our products, on a non-exclusive basis, throughout North America. PPL has agreed to order at least 1.75 MW of our field trial products by March 2001 at agreed-upon prices and to establish the next minimum order amount by the end of 2003. In connection with this distributor agreement, an affiliate of PPL purchased 425,216 shares of our common stock for \$10 million. The agreement terminates on December 31, 2004, subject to three-year extensions. Prior to December 31, 2004, PPL may terminate the agreement upon 60 days' written notice to us and, after December 31, 2004, either party may terminate the agreement upon 60 days' written notice.

We expect to establish additional long-term relationships that will facilitate the marketing, development and installation of our fuel cell power plants throughout the world.

Our other significant relationships include the following:

Bath Iron Works. In August 1999, we entered into an agreement with the Advanced Technology Division of Bath Iron Works, a General Dynamics company, to develop an advanced Direct FuelCell® plant for defense marine applications. We expect this agreement to lead to the development of the first new power generation technology for surface ships since nuclear power was adopted for aircraft carriers, addressing the market for advanced marine power systems. This agreement continues through 2004, and may be terminated by either Bath Iron Works or us, upon 30 days' written notice.

Fluor Daniel, Inc. We have a long-standing relationship with Fluor Daniel, Inc., a subsidiary of Fluor Corporation (Fluor Daniel), one of the largest engineering, procurement, construction and technical services companies in the world. Fluor Daniel's Oil, Gas & Power unit has been working with us providing architectural, design, engineering and construction management services in developing, based on our specifications, the balance of plant systems required to support our fuel cells in natural gas and coal fueled power plants. Fluor Daniel is a resource that we expect will continue to provide us with the technical and management expertise and experience required for designing and optimizing our fuel cell power plants. In connection with the King County field trial, for example, we plan on subcontracting with Fluor Daniel for design and engineering support.

In addition to our strategic relationships, we have entered into several licensing agreements, including the following:

MTU. In 1989, we entered into a license agreement with DASA, a German aerospace and aircraft equipment manufacturer and a subsidiary of Daimler Benz Corporation, one of the largest industrial companies in Europe. In 1993, that agreement was transferred to a subsidiary of DASA, MTU, now a DaimlerChrysler subsidiary.

In December 1999, the 1989 license agreement was replaced by a revised MTU license agreement, in which we granted MTU an exclusive license to use our Direct FuelCell® patent rights and know-how in Europe and the Middle East, and a non-exclusive license in South America and Africa, subject to certain rights of us and others, in each case for a royalty. Under this agreement, MTU has granted us an exclusive, royalty-free license to use any improvements to our Direct FuelCell® made by MTU anywhere in the world except Europe and the Middle East. In addition, MTU has agreed to negotiate a license grant of any separate fuel cell know-how it develops once it is ready for commercialization. Under this agreement, we have also agreed to sell our Direct FuelCell® components and stacks to MTU at cost, plus a modest fee. The new MTU agreement continues through December 2004 and may be extended for additional 5-year terms, at the option of MTU, by written notice at least 180 days prior to expiration. Upon termination, MTU will retain a non-exclusive license to use our Direct FuelCell® patent rights and know-how for a royalty.

In 1992, MTU formed a European consortium (ARGE) with RWE Energie, the largest electric utility in Germany, Ruhrgas, the largest natural gas supplier in Germany and Elkraft, a large Danish utility. The activities of this group complement our efforts to design and manufacture natural gas and coal gas fueled carbonate fuel cell systems based on our designs.

During 1998, MTU designed and built a 250 kW co-generation fuel cell unit which incorporates our fuel cell assemblies and uses an innovative integration of a portion of the balance of plant into the fuel cell stack module itself, with the expectation of reducing costs to the power plant as a whole. The design is compact and especially suitable for co-generation applications.

In July 1998, we entered into a cross-licensing and cross-selling agreement with MTU pursuant to which we have granted MTU a non-exclusive license to use our balance of plant know-how (excluding fuel cell technology included in the 1999 license agreement) in Europe, the Middle East, South America and Africa, and MTU has granted us a worldwide, non-exclusive license to use MTU's balance of plant know-how (excluding fuel cell technology included in the 1999 license agreement), in all territories except Europe and the Middle East. Each party

is required to pay to the other a royalty for each kW of rating which uses the licensed balance of plant know-how of the other. MTU is not required to pay us royalties under this agreement if MTU is obligated to pay us royalties under the 1999 license agreement. This agreement continues through 2003 and may be extended by written notice at least 180 days prior to expiration.

Santa Clara. In 1993, we obtained an exclusive license, including rights to sublicense, to use the balance of plant technology we developed under the Santa Clara plant contract. The license specifically excludes fuel cell and fuel cell stack technology. The license becomes non-exclusive after 2005 or earlier, at the option of Santa Clara, if we do not meet certain commercialization milestones. Under this license, royalties are \$15 per kilowatt (subject to consumer price index and other upward adjustments) on North American sales of commercial fuel cell power plant stacks of capacities of 100 kW or more which use the licensed balance of plant technology.

In addition to the above royalties, the license to use the Santa Clara balance of plant technology in connection with fuel cell plants sold or licensed outside North America, is subject to the quarterly payment by us of license fees equal to the lesser of (a) 2% of the proportional gross revenues from the sale of that portion of each fuel cell plant that uses the Santa Clara balance of plant technology or (b) 1% of the total gross revenue from the sale of each fuel cell plant that uses the Santa Clara balance of plant technology. We must also pay Santa Clara 25% of any fees we receive for sublicensing the Santa Clara balance of plant technology.

Electric Power Research Institute. In 1988, we entered into a license agreement with the Electric Power Research Institute (EPRI), granting us an unreserved, non-exclusive, worldwide license to use carbonate fuel cell proprietary data we developed under certain contracts with EPRI. We have agreed to pay EPRI a one-time fee of approximately \$50,000 within six months of our first commercial sale of a carbonate fuel cell stack greater than one megawatt in size using the carbonate fuel cell proprietary data we developed under the EPRI contracts and a royalty of 0.5% to 1% of net commercial sales of carbonate fuel cell stacks which use this proprietary data. Our obligation to make royalty payments continues until the later of the expiration of all patents licensed to us by EPRI, or fifteen years from our first commercial sale of a carbonate fuel cell stack which uses EPRI's proprietary data.

Our Strategy

Our business objective is to be the leading provider of carbonate fuel cell products for stationary power generation. We plan on being the first to provide high quality, low-cost sub-megawatt and megawatt class fuel cell power plants to the distributed generation market. We plan to manufacture our proprietary fuel cell stack components and to purchase balance of plant equipment from suppliers as modularized packages that will either be delivered to the power plant site for assembly with our fuel cell stack components or be assembled at our manufacturing facility for delivery to the power plant site. We plan on continuing to be an industry leader in carbonate fuel cell technology focused on expanding our proprietary technology and developing future applications, products and markets for that technology, including diesel fueled marine-based applications. To accomplish our objective, we plan to:

Focus on our Direct FuelCell® Technology for Stationary Markets. We believe that our Direct FuelCell® is the fuel cell technology most suited to stationary power generation based on its highly efficient operating characteristics and the ability to use multiple hydrocarbon fuels such as natural gas, oil, gasoline, diesel, propane, methanol, ethanol, biogas and coal gas. We plan to continue to focus on the distributed generation market where we believe that our technology and our power plant product design afford us a significant competitive advantage. We also plan to develop new products, based on our existing power plant design, for applications in the 10 to 50 MW range, and for marine and stationary applications utilizing diesel fuel.

Demonstrate our Direct FuelCell® Technology. We plan to conduct additional demonstrations of our Direct FuelCell® in various applications and utilizing a range of fuels. Demonstration units were delivered in the United States in mid-2001 to the Mercedes-Benz facility in Tuscaloosa, Alabama, to LADWP's headquarters in Los Angeles, and to our Danbury facility. In connection with our strategic alliance with Marubeni, additional demonstrations are planned in 2002 for Japan and Asia. As these demonstration projects progress, we believe that

we will begin to take commercial orders for our sub-megawatt class commercial products in the second half of calendar year 2002.

Develop Distribution Alliances and Customer Relationships. We anticipate multiple third-party distribution channels to service our customers globally. In the United States, we initially expect our products to be sold to power generation product suppliers, value-added distributors and energy service providers including; Caterpillar, Chevron Energy Services, PPL Energy Services, LADWP, Southern Company and CMS Viron Energy Services. In Europe, we plan to manufacture and deliver fuel cell components to our licensee, MTU, who will package the fuel cell power plants for distribution. In Asia, we initially expect to sell power plants through distributors, and then, as volume increases, through the delivery of fuel cell components to OEMs. In June 2001, we entered into a strategic alliance agreement with Marubeni, which will provide the necessary infrastructure for successfully launching our products in Japan and Asia. We plan to leverage our existing relationships and the success of our field trials and demonstration projects into long-term distributor and OEM relationships while continuing to pursue additional distribution partners, all on a global basis.

Expand Manufacturing Capacity. On October 31, 2001, we successfully installed and tested the equipment necessary to produce 50 megawatts of fuel cells per year at our manufacturing facility in Torrington, Connecticut. The 65,000 square foot facility, which began construction in late 2000 and opened in January 2001, has been producing the fuel cells for our current field trial projects. Our objective is to reach 400 megawatts of production capability in 2004.

Achieve Profitability by Reducing Costs. As a result of the simple design of our Direct FuelCell®, we plan to focus our fuel cell component cost reduction efforts on improving manufacturing processes, reducing purchased material cost through economies of scale and improving the performance of our fuel cells. Our strategy for reducing the balance of plant cost is to develop strategic alliances with equipment suppliers who will recognize the potential mutual benefit of joint cost reduction programs.

Benefit from Strategic Relationships and Alliances. We plan to continue to develop and benefit from strategic alliances with leading developers, suppliers, manufacturers and distributors of electrical power and electric power systems and components. We plan to leverage our relationships with MTU, Caterpillar, Marubeni, PPL and others as well as initiate and establish new strategic relationships such as these to ensure maximum exposure and distribution of our Direct FuelCell® products. We further expect these alliances will develop into mutually beneficial relationships where the ability of each party to lower costs of their respective components of the Direct FuelCell® power plant will make competitive pricing more achievable.

Create Brand Awareness. We are working to develop in our target markets the association of our Direct FuelCell® name with the highest quality stationary fuel cell products. We are also working to have the design of our Direct FuelCell® accepted as the industry standard for stationary fuel cell systems.

Aggressively Protect Intellectual Property. We plan to aggressively protect our intellectual property, through the use of patents, trademarks, trade secret protection, confidentiality procedures and confidentiality agreements. We believe that our intellectual property affords us a distinct competitive advantage, and that protecting our intellectual property is an essential part of preserving this advantage.

Develop Products for the 10 to 50 MW Distributed Generation Markets. We plan to continue our research and development, leveraging our existing technology to develop additional commercial applications for the 10 to 50 MW distributed generation market. For example, in connection with the DOE's Vision 21 program, we are in the process of designing a 40 MW ultra-high efficiency system that will combine our Direct FuelCell® and a gas turbine. We estimate that this system could reach an electrical efficiency of approximately 75%.

Develop Diesel Fueled Applications for Additional Markets. We plan to continue our research and development related to diesel-fueled applications for our technology. In conjunction with the U.S. Navy and the U.S. Coast Guard, we are developing a fuel processing system to convert diesel fuel into a fuel compatible with our existing fuel cell technology. This product would have significant opportunities for "hotel" power on military and civilian ships as well as for stationary applications on islands that are dependent on diesel as their primary fuel source.

Develop Next Generation Products. We are currently developing and plan to continue developing next generation fuel cell power plant technologies that have the potential to significantly reduce the cost per kWh by increasing the power output and cell life of our power plant products.

Cost Reduction Progress

We regularly review and revise our cost reduction plans. The DOE has on several occasions assigned an independent outside auditor to examine our present and projected cost figures to determine if the DOE's continued support of us through development contracts will achieve its intent of creating commercially viable fuel cell power generation technology in the world. In 1999, at the request of the DOE, we presented our cost projections to a panel of independent consultants. Our presentation indicated that our commercial design, megawatt class fuel cell would be capable of being manufactured, delivered and installed by 2005 at a cost per kW of approximately \$1,200 (assuming full and sustained commercial production of at least 400 MW of fuel cells per year). Although subject to a number of assumptions and uncertainties, some of which are beyond our control, including the price of fuel, we believe that, by 2005, such a cost per kW would result in a cost of generating electricity of between 6 and 8 cents per kWh for MW plants.

If this cost reduction is achieved, from a cost per kWh standpoint, our Direct FuelCell® will be an economically attractive source of energy in many places in the United States. According to the DOE, electricity prices currently vary substantially depending on the region of the country. Prices in the highest cost region (New York state for example, with an average price of over 10 cents per kWh in 1999) are well in excess of 2.0 times as expensive as in the lowest cost region (the northwest United States). The DOE predicts that, even in a competitive environment, electricity prices in New York will be 9.2 cents per kWh in 2005 and 9.0 cents per kWh in 2012. We believe that our Direct FuelCell® will be a viable alternative as transmission and distribution costs, as well as losses in efficiency due to transmission and distribution, will be substantially lessened or eliminated with our products.

We believe that the sale of commercial products before achievement of our cost reduction goals is possible to a market of "early adopters." Energy users that are unable to or choose not to site traditional combustion based generation or users that need more reliable electricity sources than that provided by the grid or diesel back-up generators may be willing to pay higher prices per kW to obtain the power that they need. We believe that these "early adopters" will likely be municipalities in heavy smog areas as well as hospitals, schools or universities. We believe that these initial customers will enable us to increase volume and subsequently implement our cost reduction plans. As a result, we believe we eventually will be able to provide a lower cost product and therefore achieve greater market potential with more traditional commercial and industrial customers.

We plan to achieve our cost goals through a combination of factors, including manufacturing process improvements, economies of scale, completion or elimination of first time or one of a kind costs, and through technology maturation that increases power output without additional product cost. These factors are described below:

Manufacturing cost reduction: Manufacturing costs are being reduced by multi-faceted efforts including supplier management, material and labor utilization, vertical integration and engineering for manufacturing efficiencies.

Economies of scale: Volume directly affects purchased material cost and reduces fixed cost allocation. Volume also has a secondary effect on direct labor by providing justification to invest in capital projects for improved productivity.

First time costs: The elimination of first time development and engineering costs is a large and straightforward element of our cost reduction plan. At commercial volumes, power plant installations are expected to be virtually identical. Furthermore, indirect costs associated with developing the initial field trial projects will not exist.

Improved performance: Power plant performance is a critical factor. Power output has a direct impact on capital cost as measured in cost per kW, and efficiency, decay rate and availability all affect the cost of

electricity, which is the best measure of the value of our products. Our research and development activities have made and are expected to continue to make substantial progress in these areas. For example, if we are successful in our ongoing research and development efforts, we might expect that stack life could increase from five years for the first stack replacement in a 30 year plant, to between seven and eight years for the last stack replacement, with additional gains in power and efficiency.

Competition

We are competing primarily on the basis of fuel efficiency, environmental considerations and cost. We believe that the carbonate fuel cell enjoys competitive advantages over most other fuel cell designs. These benefits include higher fuel efficiency (which leads to lower overall fuel cost), significantly lower emissions, scalability and potentially lower operating, maintenance and generation costs because of a less complex balance of plant. We believe that we are more advanced in the development of carbonate fuel cells than other manufacturers.

Several companies in the United States are involved in fuel cell development, although we believe that we are the only domestic company engaged in significant manufacturing and commercialization of carbonate fuel cells. Emerging technologies in our target distributed generation market include small gas turbines, PEM fuel cells, phosphoric acid fuel cells and solid oxide fuel cells. Major competitors using or developing these technologies include Capstone Turbine Corporation, Elliot Energy Systems and Honeywell International Inc. in the case of gas turbines, Ballard Power Systems, Inc., UTC Fuel Cells, Nuvera Fuel Cells, Inc. and Plug Power Inc., in the case of PEM fuel cells, ONSI Corporation in the case of phosphoric acid fuel cells, and SiemensWestinghouse Electric Company and Mitsubishi Heavy Industries, Ltd. in the case of solid oxide fuel cells. Each of these competitors has the potential to capture market share in our target market.

In Asia, at least three manufacturers have demonstrated varying levels of interest in developing and marketing carbonate fuel cells. Some have larger marketing and sales departments than we do and have a history of producing and selling electric generation equipment. One of these manufacturers has demonstrated extended operation of a 200 kW carbonate fuel cell. Two of these manufacturers have jointly demonstrated extended operation of a 100 kW carbonate fuel cell and recently tested a 1 MW plant. One of these companies is expected to concentrate on 700-800 kW sized modules for distributed generation. We believe that most of these companies use the more complex and less efficient approach of using external fuel processing equipment to produce hydrogen fuel.

In Europe, a company in Italy is actively engaged in carbonate fuel cell development and is a potential competitor. Our licensee in Germany, MTU, and its partners have conducted the most significant activity in Europe.

We must also compete with companies manufacturing more established combustion equipment, including various engines and turbines, which are currently in use and have established operating and cost features. Significant competition comes from the gas turbine industry that has recently made progress in improving fuel efficiency and reducing pollution in large size combined cycle natural gas fueled generators. Efforts are underway to extend these advantages to small size machines. We believe that these smaller gas turbines will not be able to match our fuel cell efficiency or environmental characteristics.

Manufacturing

We manufacture fuel cells at our 65,000 square foot facility in Torrington, Connecticut. This facility currently has production capacity of 50MW per year, on a three-shift basis. We expect to increase our manufacturing capacity in stages to 400 MW in 2004.

We believe that virtually all of the raw materials used in our products are readily available from a variety of vendors in the United States and Canada. However, certain manufacturing processes that are necessary to transform the raw materials into component parts for fuel cells are presently available only through a small number of foreign manufacturers. We believe that these manufactured products eventually will be obtainable from United States suppliers as demand for these items increases.

To achieve some of our cost reduction goals, we plan to develop strategic alliances with equipment suppliers to supply the balance of plant for our Direct FuelCell® products, which we expect to either be delivered to power plant sites as a modularized package for assembly with our fuel cell stack components or be assembled at our manufacturing facility for delivery to the power plant site.

Research and Development

A significant portion of our research and development has been funded by government contracts, and is classified as cost of research and development contracts in our consolidated financial statements. For the fiscal years ended 2001, 2000 and 1999, total research and development expense, including amounts received from the DOE, other government agencies and our customers, and amounts that have been self-funded, was \$20.6 million, \$13.1 million and \$13.2 million respectively.

Proprietary Rights

We rely primarily on a combination of copyright and trademark laws, trade secrets, patents, confidentiality procedures (including, in some instances, the encryption of certain technical information) and confidentiality agreements and inventors' rights agreements with our strategic partners, subcontractors, vendors, suppliers, consultants and employees to protect our proprietary rights. We have obtained patents and will continue to make efforts to obtain patents, when available, in connection with our technologies. We have 36 U.S. and 92 international patents covering our fuel cell technology (in certain cases covering the same technology in multiple jurisdictions). Of the 36 U.S. patents, 32 relate to our Direct FuelCell® technology. We also have submitted 11 U.S. and 35 international patent applications. The patents that we have obtained will expire between 2002 and 2019, and the average remaining life of our patents is approximately 8 years. Some of our intellectual property is not covered by any patent or patent application and includes trade secrets and other know-how that is not patentable, particularly as it relates to our manufacturing processes and engineering design. In addition, some of our intellectual property includes technologies and processes that may be similar to the patented technologies and processes of third parties. Certain of our intellectual property have been licensed to us on a non-exclusive basis from third parties that may also license such intellectual property to others, including our competitors.

Many of our United States patents are the result of government-funded research and development programs, including the DOE cooperative agreement. Four of our patents that were the result of government-funded research prior to January 1988 (the date that we qualified as a "small business") are owned by the United States government and have been licensed to us. This license is revocable only in the limited circumstances where it has been demonstrated that we are not making an effort to commercialize the invention. Our patents that were the result of government-funded research after January 1988 automatically belong to us because of our "small business" status. We expect to continue to qualify as a "small business" for the remainder of the three-year extension of the DOE cooperative agreement.

Fourteen of our United States patents that we own have resulted from government-funded research are subject to the risk of exercise of "march-in" rights by the government. March-in rights refer to the right of the United States government or government agency to exercise its non-exclusive, royalty-free, irrevocable worldwide license to any technology developed under contracts funded by the government if the contractor fails to continue to develop the technology. These "march-in" rights permit the United States government to take title to these patents and license the patented technology to third parties if the contractor fails to utilize the patents. We believe, however, that the likelihood of the United States government exercising these rights is remote and would only occur if we ceased our commercialization efforts and there was a compelling national need to use the patents.

Government Regulation

We presently are, and our fuel cell power plants will be, subject to various federal, state and local laws and regulations relating to, among other things, land use, safe working conditions, handling and disposal of hazardous

and potentially hazardous substances and emissions of pollutants into the atmosphere. We believe that emissions of sulfur dioxide and nitrogen oxide from our fuel cell power plants will be much lower than conventional combustion-based generating stations, and well within existing and proposed regulatory limits. The primary emissions from our megawatt class Direct FuelCell® power plants, assuming no co-generation application, will be humid flue gas (that will be discharged at a temperature of approximately 700-800 F), water (that will be discharged at a temperature of approximately 10-20 °F above ambient air temperatures) and carbon dioxide. In light of the high temperature of the gas emissions, we will likely be required by regulatory authorities to site or configure our power plants in a way that will allow the gas to be vented at acceptable and safe distances. We believe that this regulation of the gas emissions will be similar to the regulation of other power plants with similar heat and discharge temperatures. The discharge of water from our power plants will likely require permits whose terms will depend on whether the water is permitted to be discharged into a storm drain or into the local wastewater system. Lastly, as with any use of hydrocarbon fuel, the discharge of particulates will have to meet emissions standards. While industrial plants will have very low carbon monoxide emissions, there could be additional permitting requirements in smog non-attainment areas with respect to carbon monoxide if a number of our units are aggregated together.

Pursuant to the National Environmental Protection Act, since 1991, each local DOE procurement office must file and have approved by the DOE in Washington, D.C., appropriate documentation for environmental, safety and health impacts with respect to procurement contracts entered into by that local office. The costs associated with compliance with environmental regulations are generally recoverable under our cost reimbursable contracts. In certain cases, contract work may be delayed until the approval is received.

Employees

As of October 31, 2001, we had 264 full-time employees, of whom 128 were located at the Torrington, Connecticut manufacturing plant, and 136 were located at the Danbury, Connecticut facility or various field offices.

Executive Officers of the Registrant

The executive officers of the Company and their ages are as follows:

<u>NAME</u>	<u>AGE</u>	POSITION WITH THE COMPANY
Jerry D. Leitman	59	President, Chief Executive Officer and Director
Dr. Hansraj C. Maru	57	Executive Vice President, Chief Technical Officer and Director
Christopher R. Bentley	59	Executive Vice President, Chief Operating Officer and Director
Joseph G. Mahler	49	Vice President, Chief Financial Officer, Treasurer & Corporate Secretary
Herbert T. Nock	52	Senior Vice President of Marketing and Sales

Jerry D. Leitman. Mr. Leitman has been President, Chief Executive Officer and a director since August 1997. Mr. Leitman was previously President of ABB Asea Brown Boveri's global air pollution control businesses from 1992 to 1995. Prior to joining ABB, Mr. Leitman was Group Executive Vice President of FLAKT AB, a Swedish multinational company, responsible for FLAKT's worldwide industrial businesses from 1989 to 1992. Mr. Leitman is also a director and a member of the Compensation Committee of Esterline Technologies Inc. Mr. Leitman obtained both a BS and MS in Mechanical Engineering from the Georgia Institute of Technology in 1965 and 1967, respectively.

Dr. Hansraj C. Maru. Dr. Maru has been Executive Vice President and a director since December 1992 and was appointed Chief Technology Officer in August 2000. Dr. Maru was Chief Operating Officer from December 1992 to December 1997. Prior to that he was Senior Vice President—Research and Development. Prior to joining us in 1977, Dr. Maru was involved in fuel cell development at the Institute of Gas Technology. Dr. Maru received a Ph.D. in Chemical Engineering from the Illinois Institute of Technology in 1975.

Christopher R. Bentley. Mr. Bentley has been a director since June 1993, Executive Vice President since September 1990 and Chief Operating Officer since August 2000. Mr. Bentley was President of Fuel Cell Manufacturing Corporation, our former subsidiary, from September 1990 to December 1997. From 1985 through 1989, he was Director of Manufacturing (1985), Vice President and General Manager (1985-1988) and President (1988-1989) of the Turbine Airfoils Division of Chromalloy Gas Turbine Corporation, a major manufacturer of gas turbine hardware. Mr. Bentley received a BSME from Tufts University in 1966.

Joseph G. Mahler. Mr. Mahler joined us in October 1998 as Vice President, Chief Financial Officer, Corporate Secretary and Treasurer. From 1993 to 1998, Mr. Mahler was Vice President—Chief Financial Officer at Earthgro, Inc. and prior to that, he was a partner at Ernst & Young. Mr. Mahler received a BS in Accounting from Boston College in 1974.

Herbert T. Nock. Mr. Nock joined us in August 2000 as Senior Vice President of Marketing and Sales. Mr. Nock previously worked for General Electric's Power Systems business for 29 years, most recently as Product General Manager for small gas turbine products. Mr. Nock received his BS in Mechanical Engineering from Worcester Polytechnic Institute in 1971 and his MBA from Boston College in 1977.

Item 2. PROPERTIES

We currently own and occupy approximately 72,000 square feet in two interconnected single story buildings on 10.8 acres, of which approximately 7.9 acres are currently used, in Danbury, Connecticut.

We have a ten-year lease agreement for a 65,000 square foot facility in Torrington, Connecticut for our manufacturing operations. The annual lease cost is \$448,000 in the first five years and \$512,000 for the last five years, in addition to taxes, utilities and operating expenses. We have an option to extend the lease for an additional five years with an annual lease cost of \$569,000. We have received a term loan facility that allows us to borrow up to \$4,000,000 from the Connecticut Development Authority to be used for the purchase of equipment at this facility. As of October 31, 2001, we had \$1,427,000 outstanding under this facility.

Item 3. LEGAL PROCEEDINGS

We are not currently a party to any legal proceedings that, either individually or taken as a whole, could materially harm our business, prospects, results of operations or financial condition.

Item 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

None

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our common stock has been publicly traded since June 25, 1992. From September 21, 1994 through February 25, 1997, it was quoted on the Nasdaq National Market, and from February 26, 1997 through June 6, 2000 it was traded on the American Stock Exchange. Since June 7, 2000, it has been quoted on the Nasdaq National Market under the symbol "FCEL." On January 25, 2002, there were approximately 476 common stockholders of record.

The following table sets forth the range of high and low prices of our common stock on the American Stock Exchange and the Nasdaq National Market, as applicable.

	<u>High</u>	Low
Year Ended October 31, 2000	-	
First Quarter	\$15.75	\$4.21
Second Quarter	23.88	7.88
Third Quarter	20.28	9.00
Fourth Quarter	54.38	15.82
Year Ended October 31, 2001		
First Quarter	\$41.75	\$22.63
Second Quarter	36.25	19.25
Third Quarter	46.72	15.50
Fourth Quarter	20.45	10.48

We have never paid a cash dividend on our common stock and do not anticipate paying any cash dividends in the foreseeable future. We currently anticipate retaining all of our earnings to finance future growth.

Unregistered Securities

Marubeni purchased 268,114 shares of our common stock for \$10 million in July 2001. Sale of these shares was exempt from registration under Section 4(2) of the Securities Act of 1933.

Item 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data presented below as of the end of each of the years in the five-year period ended October 31, 2001 have been derived from our audited consolidated financial statements together with the notes thereto included elsewhere in this Report (the "Consolidated Financial Statements"). The data set forth below is qualified by reference to, and should be read in conjunction with, the Consolidated Financial Statements and "Management's Discussion and Analysis of Financial Condition and Results of Operations" included elsewhere in this Report.

(Dollars in thousands, except for per share amounts)

	2001	2000	1999	1998	_1997
Revenues:					
Research and development contracts	\$ 20,882	\$ 17.986	\$ 18,553	\$ 24.318	24,830
Product sales and revenues	5,297	2,729	1,412	-	
Total revenues	26,179	20,715	19,965	24,318	24,830
Costs and expenses:	47,117		,	- 1,- 2 -	,
Cost of research and development contracts	17,488	11,173	11,397	14,590	15,642
Cost of product sales and revenues	16,214	4,968	1,025	_	
Administrative and selling expense	8,952	7,917	6,615	6,986	6,081
Depreciation	1,693	1,473	1,362	1,529	1,768
Research and development expenses	3,108	1,917	1,813	2,258	1,270
Income (loss) from operations	(21,276)	(6,733)	(2,247)	(1,045)	69
License fee income, net	270	266	1,527	678	650
Interest expense	(116)	(141)	(169)	(269)	(354)
Interest and other income, net	5,684	2,138	195	267	307
Income (loss) before provision for income taxes					
	(15,438)	(4,470)	(694)	(369)	672
Provision for income taxes	-		291	13	247
Minority Interest		11			=
Net income (loss)	\$ <u>(15,438)</u>	\$ <u>(4,459)</u>	\$ <u>(985)</u>	\$ <u>(382)</u>	\$ <u>425</u>
Basic and diluted earnings (loss) per share:	\$ (0.45)	\$ (0.16)	\$ (0.04)	\$ (0.02)	\$ 0.02
Basic and diluted shares outstanding	<u>34,359,320</u>	<u>28,297,594</u>	24,906,856	24,486,108	23,727,040
Working capital	\$ 276,173	\$ 71,576	\$ 7,204	\$ 10,234	\$ 6,366
Total assets	334,020	91,028	19,831	26,843	21,433
Long - term debt	1,252		1,625	1,944	2,699
Total shareholder's equity	319,716	83,251	14,815	15,870	14,769

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

We currently obtain our revenues from government and industry funded research and development contracts, demonstration and field trial projects, and license fees. These contracts are generally multi-year, cost reimbursement type contracts. The majority of these are United States Government contracts that are dependent upon the government's continued allocation of funds. We are currently transitioning from a research and development company to a company focusing on commercializing our products.

Under a cost-reimbursement contract, we are reimbursed for reasonable and allocable costs of the materials, sub-contracts, direct labor, overhead, general and administrative expenses, independent research and development costs, and bid and proposal preparation costs, provided the total of such costs do not exceed the reimbursement limits set by the contract. In addition, some of these contracts bear a fixed fee or profit. The profitability to us of these contracts depends upon charging direct costs to contracts, maintaining adequate control of overhead costs and general and administrative expenses so they do not exceed the approved billing rates, and limiting the aggregate reimbursable costs to the allowable amounts set by the contract.

In addition, our commercial demonstration and field trial contracts are either fixed price contracts or cost-sharing type contracts. In performance of a firm fixed price contract, we are paid the price that is set in advance without regard to the costs actually incurred in performance, subject to certain excess profit limitations. In a cost sharing type contract, we agree in advance to contribute or cause to be contributed an agreed upon amount of funds, third party services or in-kind services toward fulfilling the objective of the contract. Except for our cost contributions, the contract operates in substantially the same manner as a cost reimbursement type contract. At present, most of our contracts are cost shared and no fee or profit is allowed. The government contracts and agreements provide for a cost-of-money recovery based upon capital investment in facilities employed in contract performance.

Our research and development expenses reflect costs incurred for internal research and development projects conducted without specific customer-sponsored contracts. These costs consist primarily of labor, overhead, materials to build prototype units, materials for testing, consulting fees and other costs associated with our internal research and development expenses.

Since 1983, when we began to shift our emphasis from fuel cells for military use to commercial applications, our primary focus has been researching and developing carbonate fuel cells. The funding received for this research has represented a substantial portion of our revenues.

We will continue to seek research and development contracts for all of our product lines. To obtain contracts, we must continue to prove the benefits of our technologies and be successful in our competitive bidding. Failure to obtain these contracts could have an adverse effect upon us.

Because we receive a significant portion of our revenues from contracts with the DOE and other government agencies, our future revenues and income could be materially affected by changes in government agency procurement policies, a reduction in expenditures for the services provided by us, and other risks generally associated with government contracts. In general, our government contracts may be terminated, in whole or in part, at the convenience of the government. A reduction or delay in our government funding could have a material adverse effect on our ability to commercialize our fuel cell technology.

In July 2000, the DOE extended the cooperative agreement for three additional years. Approximately \$26,000,000 remains to be funded by the DOE for the remaining period. In conjunction with this extension, we must provide additional cost share funding of \$13,000,000.

On February 22, 1999, we effected a spin-off to our stockholders of 100% of the shares of Evercel, a wholly owned subsidiary of ours. In connection with this transaction, we transferred to Evercel net assets of \$669,000 representing the principal assets and liabilities related to our battery group that was engaged in the development and commercialization of a patented, nickel-zinc rechargeable battery. Following the transfer, we distributed to our

stockholders in a tax-free distribution, one share of Evercel Common Stock for every three shares of our common stock.

RESULTS OF OPERATIONS

2001 compared to 2000. Revenues increased 26% to \$26,179,000 in the 2001 period from \$20,715,000 in the 2000 period. This was due to \$2,896,000 of additional revenue from our research and development contracts including King County, Navy Phase II, Clean Coal, Vision 21 and Coal Mine Methane, and \$2,568,000 of added demonstration project revenue from Marubeni and MTU.

Cost of research and development contracts increased to \$17,488,000 in the 2001 period from \$11,173,000 in the 2000 period. This was due to an increased number of cost-sharing type contracts. We estimate that these new contracts will result in continued growth in research and development contract costs in the 2002 period.

Cost of product sales and revenues increased to \$16,214,000 in the 2001 period from \$4,968,000 in the 2000 period due to an overall increase in the procurement and manufacturing of field trials and an increase in development costs on our initial field trial units.

Administrative and selling expenses increased 13% to \$8,952,000 in the 2001 period from \$7,917,000 in the 2000 period. This was driven by sales and marketing efforts including higher employment and other costs of commercialization.

Depreciation expense increased 15% to \$1,693,000 in the 2001 period from \$1,473,000 in the 2000 period as a result of capital purchases.

Research and development expenses increased 62% to \$3,108,000 in the 2001 period from \$1,917,000 in the 2000 period. This was due to the incurring of development costs associated with design improvements of our fuel cells.

Loss from operations increased to \$21,276,000 in the 2001 period from \$6,733,000 in the 2000 period. The additional losses resulted from activities on our field trials and cost shared contracts, and a higher level of sales and marketing activity.

Interest expense decreased to \$116,000 in the 2001 period from \$141,000 in the 2000 period. This was attributable to the repayment of indebtedness offset by incurring new indebtedness at lower rates in the second half of the 2001 period. Due to anticipated additional borrowings, debt service on the new loan in the 2002 period will result in higher interest expense than in the 2001 period.

Interest and other income, net, increased to \$5,684,000 in the 2001 period from \$2,138,000 in the 2000 period. This was due to the investment of the \$241,200,000 net cash proceeds from our equity offering in June 2001, and the \$10,000,000 of proceeds from the sale of common stock to our strategic Asian partner, Marubeni, in July 2001.

We believe that, due to our efforts to commercialize our Direct FuelCell® technology, we have and will continue to incur losses. No tax benefit has been recognized related to current year losses and other deferred tax assets, as management believes it is unlikely that the benefit from these assets will be realized.

2000 compared to 1999. Revenues increased 4% to \$20,715,000 in the 2000 period from \$19,965,000 in the 1999 period. The increase was due to a \$1,317,000 increase in demonstration project revenues, partially offset by a reduction of \$567,000 on our research and development contracts.

Research and development costs under contracts decreased to \$11,173,000 in the 2000 period from \$11,397,000 in the 1999 period. The decrease was primarily the result of timing of the award of new contracts.

Cost of product sales and revenues increased to \$4,968,000 in the 2000 period from \$1,025,000 in the 1999 period. The increase was due to new demonstration projects.

Administrative and selling expenses increased 20% to \$7,917,000 in the 2000 period from \$6,615,000 in the 1999 period. Increased employment costs, an increase in state franchise taxes paid on our increased equity, and other costs of commercialization accounted for the increase. Depreciation expense increased 8% to \$1,473,000 in the 2000 period from \$1,362,000 in the 1999 period as a result of capital purchases.

Research and development expenses increased 6%, to \$1,917,000 in the 2000 period from \$1,813,000 in the 1999 period. Increased development costs associated with our fuel cells accounted for the increase.

Income from operations resulted in a loss of \$6,733,000 in the 2000 period compared to a loss of \$2,247,000 in the 1999 period. The increased loss was due to costs incurred on demonstration projects, increased administrative and selling costs associated with our commercialization efforts.

License fee income, net, decreased 83% to \$266,000 in the 2000 period compared to \$1,527,000 in the 1999 period. The 1999 period included the recognition of a \$1,300,000 deferred license fee associated with the Nan Ya license agreement that was transferred to Evercel as part of the February 1999 spin-off.

Interest expense decreased to \$141,000 in the 2000 period from \$169,000 in the 1999 period. The decrease is attributable to the reduction of our indebtedness.

Interest and other income, net, increased to \$2,138,000 in the 2000 period from \$195,000 in the 1999 period. The increase is a result of interest earned on the cash proceeds from our common stock offering in April 2000, and investments from Enron and PPL.

Liquidity and Capital Resources

Our operations are funded primarily through cash generated from operations, borrowings, and sales of equity. Cash from operations includes revenue from government contracts and cooperative agreements, field trial projects, sale of fuel cell components primarily to MTU, license fees, and interest income.

At October 31, 2001, we had working capital of \$276,173,000 including \$274,760,000 of cash, cash equivalents and investments, compared to working capital of \$71,576,000 including \$74,754,000 of cash and cash equivalents at October 31, 2000. The increase in working capital is due to the increase in cash, cash equivalents and investments as we raised net proceeds of \$241,200,000, after approximately \$300,000 of commissions, fees and other expenses, in June 2001 from the sale of 6,900,000 shares of common stock. Also in June 2001, Marubeni made an equity investment of \$10,000,000 for 268,114 shares of our common stock. We acquired \$19,094,000 in fixed assets and repaid \$1,625,000 of debt during the year ended October 31, 2001.

We have entered into a \$4,000,000 loan agreement with the Connecticut Development Authority that will be used to purchase equipment for the manufacturing facility. To date, we have borrowed \$1,427,000 pursuant to this agreement.

The cash generated from operations, borrowings, and sales of equity will be used to support the commercialization of our Direct FuelCell® products. Proceeds will be used to purchase additional manufacturing equipment as well as for general corporate purposes including research and development, field trial support and working capital. Working capital requirements will consist primarily of increases in inventory as additional demonstrations and field trials of our Direct FuelCell® products are conducted and material purchases increase. Proceeds will also be used to support the cost of early field trials and demonstration projects that will likely exceed revenue from these projects.

We anticipate that our existing capital resources together with anticipated revenues will be adequate to satisfy our planned financial requirements and agreements through at least 2002.

In December 1994, we entered into a Cooperative Agreement with the DOE pursuant to which they agreed to provide funding through 1999 to support the continued development and improvement of our commercial product. This agreement has recently been extended for three additional years, through 2003, with funding subject to annual approval by the U.S. Congress. The current aggregate dollar amount of that contract is \$212,679,000 with the DOE

providing \$134,712,000 in funding. Of that amount, approximately \$26,200,000 remains to be funded by the DOE. The balance of the funding is expected to be provided by us, our partners or licensees, other private agencies and utilities. Approximately 70% of the non-DOE portion has been committed or credited to the project in the form of in-kind or direct cost share from non-U.S. government sources. It is anticipated that the balance of non-DOE funding will be obtained timely.

In addition to the DOE Cooperative Agreement, we have received a \$3,125,000, 24.2% cost-shared contract under the Vision 21 program to develop a Direct FuelCell®/turbine power plant by 2002, a \$16,500,000, 20% cost-shared contract from the U.S. Navy to demonstrate a marine fuel cell power plant operating on diesel fuel by 2003 and a \$5,362,000, 50% cost-shared contract with the DOE to develop a Direct FuelCell® utilizing coal methane gas. We have also signed an agreement with King County, Washington to deliver in 2002 a one mega-watt Direct FuelCell® power plant using municipal wastewater digester gas. The project will be cost-shared equally by King County and us and has a total value of \$18,800,000.

Recent Accounting Pronouncements

SFAS No. 141, "Business Combinations", and SFAS No. 142, "Goodwill and Other Intangible Assets". SFAS No. 141 revises the guidance for business combinations and eliminates the pooling method. SFAS No. 142 eliminates the amortization requirement for goodwill and certain other intangible assets and requires that such assets be reviewed periodically for impairment. Neither of these standards, which are effective for fiscal years beginning after December 15, 2001, is anticipated to have any impact on our financial condition or results from operations upon adoption.

SFAS No. 143, "Accounting for Asset Retirement Obligations", which addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The standard applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and (or) normal use of the asset. We are required to adopt the provisions of SFAS No. 143 for the quarter ending January 31, 2003. To accomplish this, we must identify all legal obligations for asset retirement obligations, if any, and determine the fair value of these obligations on the date of adoption. It is not practicable at this time for management to estimate the impact of adopting this Statement at the date of this report.

In October 2001, the FASB issued SFAS No. 144 "Accounting for Impairment or Disposal of Long-Lived Assets". SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement also extends the reporting requirements to report separately, as discontinued operations, components of an entity that have either been disposed of or are classified as held-for-sale. We are required to adopt the provisions of SFAS No. 144 effective November 1, 2002 and it is not anticipated to have any impact on our financial condition or results from operations.

Significant Accounting Policies

Revenue Recognition

Revenues represent reimbursement by commercial and government entities for all or a portion of the research and development costs we incur on long-term contracts including demonstrations and field trial. We recognize our revenues on long-term contracts on a method similar to the percentage of completion method. Revenues are recognized proportionally as research and development costs are incurred and compared to the estimated total research and development costs for each contract or field trial. Costs are considered research and development in nature as the benefit to be obtained from incurring such costs may represent the design, development, manufacture, and the conditioning and testing of our fuel cell stacks. In many cases, the amount we are reimbursed is exceeded by the costs incurred or to be incurred on a contract.

As we commercialize our fuel cell technology costs will relate entirely to the fulfillment of individual contracts with customers. At the point that our fuel cells are commercialized, estimated costs to complete an individual contract in excess of revenue will be accrued immediately.

As discussed above, we recognize research and development costs for contracts as incurred. When we pay costs for material, labor and overhead to build fuel stacks which have not yet been dedicated to a particular contract, we include them in WIP inventory to the extent we estimate them to be recoverable based on anticipated use of the fuel stacks and anticipated cost reimbursement on these anticipated contracts. At October 31, 2001, there was \$2,815,000, net in WIP inventory related to such costs. During the normal course of business, we may at any time dedicate the fuel stacks in WIP inventory to a contract, at which point in time the inventory costs are charged to research and development expense and when appropriate, revenue will be recognized on these costs.

As we increase our commercial activities, we anticipate that our assessment of recoverability of inventory costs will become increasingly dependent upon the amount we believe we can sell the fuel stacks in the commercial market, and less on the extent to which costs are reimbursed pursuant to government contracts.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Exposure

Our exposure to market risk for changes in interest rates, relates primarily to our investment portfolio and long term debt obligations. Our investment portfolio includes both short-term United States Treasury instruments with maturities averaging three months or less, as well as U.S. Treasury notes with fixed interest rates with maturities of up to twenty months. Cash is invested overnight with high credit quality financial institutions. Based on our overall interest exposure at October 31, 2001, including all interest rate sensitive instruments, a near-term change in interest rate movements of 1% would affect our consolidated results of operations by approximately \$2,500,000 annually, based on the investment of our cash and cash equivalents and outstanding debt at October 31, 2001.

Currency Rate Exposure

Our functional currency is the U.S. dollar. To the extent we expand our international operations, we will be exposed to increased risk of currency fluctuation. In fiscal 2001 and beyond, we have or will be purchasing materials for various projects in foreign countries. Many of these purchases will be denominated in the currency of the related region. In order to protect the purchase price from currency fluctuations, we may, from time to time, to enter into forward contracts to purchase foreign currency. It is expected that changes in the market value of the futures contracts will be included as part of the acquisition price of the materials inventory and realized when the project is ultimately completed, along with the offsetting foreign currency gains or losses.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our Consolidated Financial Statements and Supplementary Data are listed under Part IV, Item 14, in this report.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

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PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information required by this item is contained in part under the caption "Executive Officers of the Company" contained in Part I hereof and the remainder is incorporated herein by reference to "Election of Directors" in our Proxy Statement for our Annual Meeting of Shareholders to be held on March 26, 2002 (the "2002 Proxy Statement") to be filed with the SEC within 120 days from the fiscal year end.

Item 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated herein by reference to the Section captioned "Executive Compensation" to be contained in the 2002 Proxy Statement to be filed with the SEC within 120 days from fiscal year end.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this item is incorporated herein by reference to the Section captioned "Security Ownership of Certain Beneficial Owners and Management" to be contained in the 2002 Proxy Statement to be filed with the SEC within 120 days from fiscal year end.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item is incorporated herein by reference to the Section captioned "Certain Relationships and Related Transactions" to be contained in the 2002 Proxy Statement to be filed with the SEC within 120 days from fiscal year end.

PART IV

Item 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(A) (1) FINANCIAL STATEMENTS

- 1) Independent Auditors' Report KPMG LLP (See page F-2, hereof.)
- 2) Consolidated Balance Sheets as of October 31, 2001 and 2000 (See page F-3 hereof.)
- 3) Consolidated Statements of Loss for the Years Ended October 31, 2001, 2000, and 1999 (See page F-4, hereof.)
- 4) Consolidated Statements of Changes in Shareholders' Equity for the Years Ended October 31, 2001, 2000 and 1999 (See page F-5, hereof.)
- 5) Consolidated Statements of Cash Flows for the Years Ended October 31, 2001, 2000 and 1999 (See page F-6, hereof.)
- 6) Notes to Consolidated Financial Statements

(A) (2) FINANCIAL STATEMENT SCHEDULES

Supplement schedules are not provided because of the absence of conditions under which they are required or because the required information is given in the financial statements or notes thereto.

Independent Auditors' Report

The Board of Directors of FuelCell Energy, Inc.:

We have audited the accompanying consolidated balance sheets of FuelCell Energy, Inc. and subsidiary as of October 31, 2001 and 2000, and the related consolidated statements of loss, changes in shareholders' equity and cash flows for each of the years in the three-year period ended October 31, 2001. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of FuelCell Energy, Inc. as of October 31, 2001 and 2000, and the results of their operations and their cash flows for the each of the years in the three-year period ended October 31, 2001 in conformity with accounting principles generally accepted in the United States of America.

KPMG LLP

Stamford, CT December 17, 2001

Consolidated Balance Sheets

October 31, 2001 and 2000

(Dollars in thousands, except per share amounts)

A CCD'TC	-	2001	_	2000
<u>ASSETS</u>				
Current assets:				
Cash and cash equivalents	\$	256,870	\$	74,754
Investments		17,890		
Accounts receivable, net		7,110		3,459
Inventories		6,334		305
Deferred income taxes		25		50
Other current assets		996	_	596
Total current assets		289,225		79,164
Property, plant and equipment, net		27,188		9,794
Investments		15,773		
Deferred income taxes		266		241
Other assets, net	-	1,568	-	1,829
Total assets	\$.	334,020	\$_	91,028
LIABILITIES AND SHAREHOLDERS' EQUITY				
Current liabilities:				
Current portion of long-term debt	\$	175	\$	1,625
Accounts payable		4,679		1,626
Accrued liabilities		6,763		3,557
Deferred license fee income		37		38
Customer advances	_	1,398		742
Total current liabilities		13,052		7,588
Long-term debt	_	1,252	_	<u>_</u>
Total liabilities	-	14,304	_	7,588
Minority interest	-		_	189
Shareholders' equity: Common stock (\$.0001 par value); 150,000,000 and 40,000,000 shares authorized at October 31, 2001 and October 31, 2000 respectively: 38,998,788 and 31,461,420 shares issued and outstanding at October 31, 2001 and October 31,				
2000, respectively		4		3
Additional paid-in capital		338,936		87,034
Accumulated deficit	_	(19,224)	_	(3,786)
Total shareholders' equity	-	319,716	_	83,251
Total liabilities and shareholders' equity	\$ _	334,020	\$_	91,028

Consolidated Statements of Loss October 31, 2001, 2000 and 1999 (Dollars in thousands, except per share amounts)

	2001		2000		_	1999
Revenues						
Research and development contracts	\$	20,882	\$	17,986	\$	18,553
Product sales and revenue		5,297		2,729		1,412
Total revenues		26,179		20,715	_	19,965
Costs and expenses:						
Cost of research and development contracts		17,488		11,173		11,397
Cost of product sales and revenues		16,214		4,968		1,025
Administrative and selling expenses		8,952		7,917		6,615
Depreciation		1,693		1,473		1,362
Research and development expenses		3,108		1,917		1,813
Total costs and expenses		47,455		27,448		22,212
Loss from operations		(21,276)		(6,733)		(2,247)
License fee income, net		270		266		1,527
Interest expense		(116)		(141)		(169)
Interest and other income, net		5,684		2,138		195
Loss before provision for						
income taxes	•	(15,438)		(4,470)		(694)
Provision for income taxes .		_		_		291
Minority interest				11		
Net loss	\$	(15,438)	\$	(4,459)	\$	(985)
Loss per share:						
Basic and diluted loss per share	\$	(0.45)	\$	(0.16)	\$	(0.04)
Basic and diluted shares outstanding	34,	359,320		28,297,594		24,906,856

Statements of Changes in Shareholders' Equity October 31, 2001, 2000, and 1999 (Dollars in thousands, except per share amounts)

	Shares Of Common Stock	Common Stock	Additional Paid-In Capital	Retained Earnings (Deficit)	S	Total hareholders' Equity
Balance at October 31, 1998	24,775,640	\$ 2	\$ 12,941	\$ 2,327	\$ -	15,270
Compensation for stock options granted			133			133
Issuance of common stock under						
benefit plans	77,552		138			138
Common stock retired	(26,848)		(87)			(87)
Stock options exercised	297,144		415			415
Preferred stock conversion	180,000		600			600
Transfer of net assets to Evercel, Inc.				(669)		(669)
Net loss				(985)		(985)
Balance at October 31, 1999 Compensation for stock options	25,303,488	\$ 2	\$ 14,140	\$ 673	\$	14,815
granted Issuance of common stock under			134			134
benefit plans Issuance of common stock for follow-	17,896		59			59
on offering in April 2000 Issuance of common stock to Enron	5,200,000	1	61,099			61,100
and PPL	585,796		15,000			15,000
Common stock retired for cashless						
exercise of options	(20,844)		(258)			(258)
Stock options exercised	375,084		394			394
Common stock costs			(3,534)			(3,534)
Net loss				(4,459)		(4,459)
Balance at October 31, 2000 Compensation for stock options	31,461,420	\$ 3	\$ 87,034	\$ (3,786)	\$	83,251
granted			100			100
Issuance of common stock under						
benefit plans	16,414		213			213
Issuance of common stock for follow-						
on offering in June 2001	6,900,000	1	241,500			241,501
Issuance of common stock - Marubeni	268,114		10,000			10,000
Stock options exercised	354,382		1,110			1,110
Common stock retired for cashless						
exercise of options	(1,542)		(60)			(60)
Common stock and equity investment						/= ^ = ·
costs			(708)			(708)
Deconsolidation of Xiamen Joint			(050)			(053)
Venture Net loss			(253)	(15,438)		(253) (15,438)
1101 2000				(13,730)		(12,720)
	38,998,788	\$ 4	\$ 338,936	\$ (19,224)	\$	319,716

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Consolidated Statements of Cash Flows October 31, 2001, 2000 and 1999

(Dollars in thousands, except per share amounts)

		2001	2000	1999
Cash flows from operating activities:	ф	(15.420)	(1.450) A	(00 5)
Net loss	\$	(15,438) \$	(4,459) \$	(985)
Adjustments to reconcile net income (loss) to				
net cash provided by operating activities: Compensation for options granted		100	134	133
Depreciation and amortization		2,034	1,880	1,770
Deferred income taxes		2,034	1,000	605
(Gain) loss on disposal of property		(4)	82	(15)
Minority interest		(4)	(11)	(13)
(Increase) decrease in operating assets:		-	(11)	_
Accounts receivable		(3,651)	(1,127)	1,445
Inventories		(6,029)	899	(1,174)
Other current assets		(400)	(191)	241
Increase (decrease) in operating liabilities:		(100)	(171)	
Accounts payable		3,053	1,142	(136)
Accrued liabilities		3,216	1,770	98
Customer advances		656	192	(620)
Deferred license fee income and other		48	9	(1,300)
				
Net cash provided by operating activities		(16,415)	320	62
Cash flows from investing activities:				
Capital expenditures		(19,094)	(4,155)	(1,244)
Investments in treasury notes		(33,663)	(4,133)	(1,244)
Proceeds from sale of fixed assets		(55,005)		603
Payments on other assets			6	(213)
Tay monto on other assets			<u> </u>	(213)
Net cash used in investing activities		(52,757)	(4,149)	(854)
Cash flows from financing activities:				
Long term debt borrowings		1,427		
Transfer of minority interest to Evercel, Inc.		1,427	_	(3,082)
Repayment on long-term debt		(1,625)	(341)	(733)
Sales of common stock		251,501	76,100	(733)
Deconsolidation of Xiamen Joint Venture		(570)	~ -	
Common stock and equity investment costs		(708)	(3,534)	
Common stock issued for Option and Stock Purchase Plans		1,263	195	466
Net cash provided by (used) in financing activities		251,288	72,420	(3,349)
Net increase (decrease) in cash and cash equivalents		182,116	68,591	(4,141)
Cash and cash equivalents-beginning of year		74,754	6,163	10,304
Cash and cash equivalents-end of year	\$	256,870 \$	74,754 \$	6,163
Cash paid during the period for:			_	_
Interest	\$	116 \$	129 \$	158
Income taxes		135	210	104
Other non cash transactions:				
Conversion of preferred stock			_	600
Net assets transferred to Evercel, Inc.		_	_	669

(1) Summary of Significant Accounting Policies

Nature of Business

FuelCell Energy, Inc. is engaged in the development and commercialization of carbonate fuel cell technology for stationary power generation. We manufacture carbonate fuel cells, generally on a contract basis. However, we are currently in the process of commercializing our Direct FuelCell® technology and expect to incur losses as we expand our product development, commercialization program and manufacturing operations.

Our revenue is primarily generated from agencies of the U.S. government and customers located throughout the United States, Europe and Asia. We generally do not require collateral in providing credit except for international sales where a deposit may be required with the purchase orders.

Principles of Consolidation

The accompanying financial statements as of and for the year ended October 31, 2001 include only our accounts. Prior to that date, the accounts of our former subsidiary, Xiamen-ERC High Technology Joint Venture, Inc., a joint venture formed between the City of Xiamen, Peoples Republic of China, and us, were included. In October of 2000, we transferred 42.17% of our 66.67% ownership to Evercel, Inc. Our remaining 24.5% ownership in the Xiamen joint venture has been accounted for under the equity method since that transfer.

Certain reclassifications have been made to our prior year financial statements to conform to the 2001 presentation.

Cash and Cash Equivalents

Cash equivalents consist primarily of investments in a money market fund and United States Treasury notes with original maturities averaging three months or less at date of acquisition. We place our temporary cash investments with high credit quality financial institutions.

Investments

Investments consist of United States Treasury notes with original maturities of greater than three months at the date of acquisition. The notes are classified as held to maturity since we have the ability and intention to hold them until maturity. The notes are being carried at amortized cost, which is par value, plus or minus unamortized premium or discount. Such notes are classified as current assets when remaining maturities are one year or less, and as non-current assets when remaining maturities are greater than one year.

Inventories

Inventories consist principally of raw materials and work-in-process and are stated at the lower of cost or market.

Raw materials consist mainly of various nickel powders and steels, and various other components used in producing cell stacks.

Work-in-process inventory is comprised of material, labor, and overhead costs incurred by us to build fuel cell stacks, which are subcomponents of power generation systems, which have not yet been dedicated to a particular research and development contract, field trial, or commercial customer, (collectively the "end users"), and which are estimated to be fully recovered from the end users. In instances where costs incurred exceed anticipated recovery, those excess costs are charged to cost of product sales and revenues as incurred.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation provided on the straight-line method over the estimated useful lives of the respective assets. Leasehold improvements are amortized on the straight-line method over the shorter of the estimated useful lives of the assets or the term of the lease.

When property is sold or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and any resulting gain or loss is reflected in operations for the period.

Intellectual Property

Intellectual property including patents and know-how is carried at no value.

Impairment of Long Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. If events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable, we compare the carrying amount of the assets to future undiscounted net cash flows, excluding interest costs, expected to be generated by the assets and their ultimate disposition. If the sum of the undiscounted cash flows is less than the carrying value, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value, less costs to sell.

Revenue/License Fee Revenue Recognition

Revenues and fees on long-term contracts, including demonstration and field trial contracts and government and commercial cost reimbursement contracts, are recognized on a method similar to the percentage-of-completion method. Percentage-of-completion is measured by costs incurred and accrued to date as compared with the estimated total costs for each contract. Contracts typically extend over a period of one or more years. In accordance with industry practice, receivables include amounts relating to contracts and programs having production cycles longer than one year and a portion thereof will not be realized within one year. We recognized approximately \$3,427, \$469, and \$2,579 of long-term contract revenues from our corporate shareholders during fiscal years ended October 31, 2001, 2000 and 1999, respectively.

License fee income arises from license agreements whereby we grant the right to use our patents and know-how. Amounts received are deferred and recognized ratably over the respective terms of the agreements. In 1999, we recognized previously deferred license fee income of \$1,300 resulting from the successful testing of Evercel's nickel zinc battery technology. We recognized approximately \$300, \$292 and \$250 of license fee income during each of the fiscal years ended October 31, 2001, 2000 and 1999, under a license agreement with MTU.

Revenues from the U.S. Government and its agencies directly and through primary contractors were \$20,837, \$17,961 and \$17,386 for the years ended October 31, 2001, 2000 and 1999, respectively.

Research and Development

Our cost of research and development contracts reflect costs incurred under specific customer-sponsored research and development contracts. These costs consist of both manufacturing and engineering labor, including applicable overhead expenses, materials to build prototype units, materials for testing, and other costs associated with our research and development contracts.

Our research and development expenses reflect costs incurred for internal research and development projects conducted without specific customer-sponsored contracts. These costs consist primarily of labor, overhead, materials to build prototype units, materials for testing, consulting fees and other costs associated with our internal research and development expenses.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. A valuation allowance is recorded against deferred tax assets if it is unlikely that some or all of the deferred tax assets will be realized.

Stock Option Plan

Statement of Financial Accounting Standard ("SFAS") No. 123, "Accounting for Stock-Based Compensation," encourages entities to recognize as expense over the vesting period the fair value of all stock-based awards on the date of grant. Alternatively, SFAS No. 123 also allows entities to continue to apply the provisions of APB Opinion No. 25 and provide pro forma net income and pro forma earnings per share disclosures for employee stock option grants as if the fair-value-based method defined in SFAS No. 123 had been applied. We apply the recognition provisions of APB Opinion No. 25 and provide the pro forma disclosure provisions of SFAS No. 123.

As such, compensation expense is recorded on the measurement date to the extent that the then current market price of the underlying stock exceeds the exercise price.

FASB Interpretation No. 44 (FIN 44) "Accounting for Certain Transactions Involving Stock Compensation", is an interpretation of APB Opinion No. 25. FIN 44 clarifies the application of APB No. 25 for a number of issues, including the definition of an employee, compensatory versus non-compensatory plans, modifications of plan terms, and accounting for the exchange of stock compensation awards in a business combination. FIN 44 became effective July 1, 2000.

Earnings Per Share (EPS)

Basic EPS is computed by dividing income available to common stockholders by the weighted average number of common shares outstanding during the period. The computation of diluted EPS is similar to the computation of basic EPS except that it gives effect to all potentially dilutive instruments that were outstanding during the period. In 2001 and 2000, we computed diluted EPS without consideration to potentially dilutive instruments due to the fact that the losses incurred by us made them antidilutive. All per share data and the number of shares of common stock in this report have been retroactively adjusted to reflect the three-for-two stock dividend, which became effective November 16, 1999, the two-for-one stock dividend, which became effective September 13, 2000, and the two-for-one stock dividend, which became effective June 19, 2001.

Use of Estimates

Management has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these financial statements in conformity with generally accepted accounting principles. Actual results could differ from those estimates.

Recent Accounting Pronouncements

In July 2001, the Financial Accounting Standards Board (FASB) issued SFAS No. 141, "Business Combinations", and SFAS No. 142, "Goodwill and Other Intangible Assets". SFAS No. 141 revises the guidance for business combinations and eliminates the pooling method. SFAS No. 142 eliminates the amortization requirement for goodwill and certain other intangible assets and requires that such assets be

reviewed periodically for impairment. Neither of these standards, which are effective for fiscal years beginning after December 15, 2001, is anticipated to have any impact on our financial condition or results from operations upon adoption.

In August 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations", which addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The standard applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and (or) normal use of the asset. We are required to adopt the provisions of SFAS No. 143 for the quarter ending January 31, 2003. To accomplish this, we must identify all legal obligations for asset retirement obligations, if any, and determine the fair value of these obligations on the date of adoption. It is not practicable at this time for management to estimate the impact of adopting this Statement at the date of this report.

In October 2001, the FASB issued SFAS No. 144 "Accounting for Impairment or Disposal of Long-Lived Assets". SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement also extends the reporting requirements to report separately, as discontinued operations, components of an entity that have either been disposed of or are classified as held-for-sale. We are required to adopt the provisions of SFAS No. 144 effective November 1, 2002 and it is not anticipated to have any impact on our financial condition or results from operations.

(2) Spin-Off of Evercel, Inc., Joint Ventures and License Agreements

On February 22, 1999, we effected a spin-off to our stockholders of 100% of the shares of Evercel. We had previously transferred to Evercel the principal assets and liabilities of our battery business group. We distributed to our stockholders in a tax-free distribution, one share of Evercel Common Stock for every three shares of our common stock held on the record date of February 19, 1999.

On February 22, 1999, the effective date of the spin-off, we also deconsolidated the financial statements of Evercel and the Joint Venture from our consolidated financial statements. As part of the spin-off of Evercel, we transferred capital assets (net), prepaid spin-off costs, accounts receivable and short-term liabilities amounting to \$1,228, \$501, \$36, and \$1,096, respectively.

During 1998 we also formed a joint venture with the City of Xiamen, China, called Xiamen-ERC High Technology Joint Venture, Inc. We had invested \$400 of capital into this joint venture for a 66-2/3% ownership, which we had through October 31, 2000. In December 2000, we transferred a 42.17% ownership in the joint venture to Evercel.

(3) Investments

Investments consist of United States Treasury Notes.

Short-term investments:

These notes have maturity dates ranging from January 31, 2002 to September 30, 2002, and estimated yields ranging from 5.875% and 6.500%. As of October 31, 2001, the aggregate fair value of these notes was \$17,918, the gross holding gains were \$43, and the gross holding losses were \$15.

Long-term investments:

These notes have maturity dates ranging from November 30, 2002 to June 30, 2003, and estimated yields ranging from 3.875% and 5.625%. As of October 31, 2001, the aggregate fair value of these notes was \$16,010, the gross holding gains were \$237 and the gross holding losses were zero.

(4) Inventories

The components of inventory at October 31, 2001 and October 31, 2000 consisted of the following:

	OCTOE	•	OCTOBER 31, 2000		
Raw materials	\$	3,519	\$	197	
Work-in-process - net		2,815		108	
Total	\$	6,334	\$	305	

(5) Accounts Receivable

Accounts receivable at October 31, 2001 and 2000 consisted of the following:

	2001		2	2000
U.S. Government:				
Amount billed	\$	2,601	\$	2,435
Retainage		239		98
	 _	2,840		2,533
Commercial Customers:				
Amount billed		2,505		311
Unbilled recoverable costs		1,764		606
Retainage		1_		9
-		4,270		926
	\$	7,110	\$	3,459

Retainage represents amounts billed but not paid by customers pursuant to retainage provisions in the contracts that will be due upon completion of the contracts and acceptance by the customer and that may be collected over more than one year.

Unbilled recoverable costs represent amounts of revenue recognized on costs incurred on contracts in progress that will be billed within the next 30 days.

(6) Property, Plant and Equipment

Property, plant and equipment at October 31, 2001 and 2000 consisted of the following:

	2001	 2000	Estimated Useful Life
Land	\$ 524	\$ 524	
Building and improvements	4,811	4,449	10-30 years
Machinery and equipment	16,717	11,724	3-8 years
Furniture and fixtures	1,304	1,138	6-10 years
Construction in progress	15,300	3,552	
	\$ 38,656	\$ 21,387	
Less, accumulated			
Depreciation and amortization	(11,468)	(11,593)	
Total	\$ 27,188	\$ 9,794	

(7) Other Assets

Other assets at October 31, 2001 and 2000 consisted of the following:

	20	001	2000		
Power Plant License Other	\$	1,370 198	\$	1,653 176	
Total	\$	1,568	\$	1,829	

The Power Plant License is being amortized over 10 years on a straight-line basis. Accumulated amortization was \$1,465 and \$1,182 at October 31, 2001 and 2000, respectively.

(8) Accrued Liabilities

Accrued liabilities at October 31, 2001 and 2000 consisted of the following:

		2001	2000		
Accrued payroll and employee benefits	\$	2,026	\$	1,780	
Accrued contract and operating costs		4,080		1,455	
Accrued taxes and other		657		322	
Total	_\$	6,763	\$	3,557	

(9) Long-Term Debt

Long-term debt at October 31, 2001 and 2000 consisted of the following:

	 2001	2000		
Note payable (a)	\$ 1,427	\$		
Note payable (b)	 		1,625	
			1,625	
Less – current portion	 (175)		(1,625)	
Long-term debt, less current portion	\$ 1,252	\$		

- (a) On June 29, 2000, we entered into a loan agreement from which we can borrow up to \$4,000. The loan is secured by machinery and equipment purchased under the loan. The promissory note is payable monthly over six and one-half years, with interest computed annually based on the ten-year U.S. Treasury note plus 2½%. Our current rate and weighted average interest rate during 2001 was 7.9%. Borrowings as of October 31, 2001 totaled \$1,427.
- (b) We had entered into a five-year term loan facility, which was payable in monthly installments of \$13 plus interest. Interest on this note was payable at LIBOR plus 1.75%. We made a balloon payment of \$1,543 in June 2001, which fully repaid the loan.

(10) Commitments and Contingencies

We lease certain computer and office equipment, the Torrington, CT manufacturing facility, and office space in Washington, D.C. and Pasadena, CA, under operating leases expiring on various dates through 2004. Rent expense was \$807, \$611 and \$517 for the fiscal years ended October 31, 2001, 2000 and 1999, respectively. Aggregate minimum annual payments under the lease agreements for the five years subsequent to October 31, 2001 are: 2002, \$663; 2003, \$613; 2004, \$546; 2005, \$533 and 2006, \$538.

We have royalty agreements with MTU, Santa Clara, Electric Power Research Institute (EPRI) and LADWP pursuant to which we have agreed to pay royalties based upon certain milestones or events relating to the sale of carbonate fuel cells. Through October 31, 2001, we have not paid any royalties. In connection with certain contracts and grants from the United States Department of Energy (DOE), we have agreed to pay DOE 10% of the annual license income received from MTU, up to \$500 in total. Through 2001, we have paid to DOE a total of \$310.

(11) Shareholders' Equity

At October 31, 2001, 5,409,212 shares of common stock have been reserved for issuance pursuant to our stock option plans and our Section 423 Stock Purchase Plan.

We have issued warrants enabling Marubeni to purchase up to 1,900,000 shares of our common stock, with exercise prices ranging from approximately \$37 to \$48 per share. The warrants will only be exercisable if Marubeni purchases at least 45 MW of our products by September 2003. For accounting purposes, we expect that the fair value of these warrants will be netted against the revenues attributable to the purchase of our products by Marubeni.

In June 2001, Marubeni invested \$10 million in FuelCell Energy through the purchase of 268,114 shares of our common stock. In September 2000, an affiliate of Enron purchased 160,580 shares of our common stock for \$5 million, and affiliate of PPL purchased 425,216 shares of our common stock for \$10 million.

We have issued warrants enabling Enron to purchase up to 1,733,333 shares of common stock at exercise prices ranging from approximately \$31 to \$41 per share. The warrants will only be exercisable if Enron purchases at least 55MW of our products by September 29, 2002. For accounting purposes, we expect that the value of these warrants will be netted against the revenues attributable to the purchase of our products by Enron. As of October 31, 2001, Enron has purchased none of our products. In January 2002, Enron commenced bankruptcy proceedings.

In 1999, 180,000 shares of Preferred "C" were converted to 180,000 shares of our common stock.

(12) Stock Option Plan

The Board has adopted 1988 and 1998 Stock Option Plans (collectively the Plans). Under the terms of the Plans, options to purchase up to 7,706,000 shares of common stock may be granted to our officers, key employees and directors. Pursuant to the Plans, the Board is authorized to grant incentive stock options or nonqualified options and stock appreciation rights to our officers and key employees and may grant nonqualified options and stock appreciation rights to our directors. Stock options and stock appreciation rights have restrictions as to transferability. The option exercise price shall be fixed by the Board but in the case of incentive stock options, shall not be granted at an exercise price less than 100% of the fair market value of the shares subject to the option on the date the option is granted. Stock appreciation rights may be granted in conjunction with options granted under the Plans. Stock options that have been granted are exercisable commencing one year after grant at the rate of 25% of such shares in each succeeding year. There

were no stock appreciation rights outstanding at October 31, 2001 and 2000. Costs for fixed awards with prorata vesting are recognized on a straight-line basis.

The per share weighted-average fair value of stock options granted in 2001, 2000 and 1999 was \$17.75, \$5.91 and \$2.11, respectively, on the date of grant using the Black Scholes option-pricing model with the following weighted-average assumptions:

		Risk free		
	Dividend	Interest rate	Expected	Volatility
Year	rate	range	life	Factor
2001	0%	3.85 - 5.76%	7.5 years	.7554
2000	0%	5.79 - 6.80%	7.7 years	.6884
1999	0%	5.20 - 5.34%	10 years	.6300

The following table summarizes the Plan's activity for the years ended October 31, 2001, 2000 and 1999:

	Number of shares	Weighted average option price
Outstanding at October 31, 1998	2,702,396	\$1.62
Granted	618,760	\$1.53
Exercised	(297,144)	\$1.40
Cancelled	(18,000)	\$2.05
Outstanding at October 31, 1999	3,006,012	\$1.57
Granted	1,076,006	\$16.82
Exercised	(375,084)	\$1.05
Cancelled	(12,000)	\$6.60
Outstanding at October 31, 2000	3,694,934	\$6.04
Granted	869,250	\$23.83
Exercised	(354,382)	\$3.14
Cancelled	(53,000)	\$37.23
Outstanding at October 31, 2001	4,156,802	\$9.62

The following table summarizes information about stock options outstanding and exercisable at October 31, 2001:

<u>Options Outstanding</u> Weighted					Options Exercisable			
Range of exercise price	Numbers outstanding	weighted average remaining contractual life	av	eighted erage eise price	Number exercisable	av	eighted verage cise price	
\$ 1.00 - 10.00	2,555,434	6.1	\$	2.10	2,054,434	\$	1.75	
10.01 - 20.00	837,368	8.8		16.57	223,118		17.14	
20.01 - 30.00	700,000	9.2		26.09	9,000		23.86	
30.01 - 40.00	60,000	8.9		38.00	15,000		38.00	
40.01 - 46.00	4,000	9.0		45.97	1,000		45.97	
\$ 1.00 – 46.00	4,156,802	7.2	\$	9.62	2,302,552	\$	3.59	

Employee Stock Purchase Plan

Our shareholders adopted a Section 423 Stock Purchase Plan (the "ESPP") on April 30, 1993, and the plan was last amended on October 6, 1999. The total shares allocated to the Plan are 900,000. Under the ESPP, our eligible employees have the right to subscribe to purchase shares of common stock at the lesser of 85% of the mean between the high and low market prices on the first day of the purchase period or the last day of the purchase period. An employee may elect to have up to 25% of annual base pay withheld in equal installments throughout the designated payroll-deduction period for the purchase of shares. The value of the employee's subscription may not exceed \$25,000 or 1,800 shares in any one calendar year. An employee may not participate in the ESPP if such employee, immediately after the option is granted, owns stock possessing 5% or more of the total combined voting power or value of our capital stock. As of October 31, 2001, there were 515,788 shares of Common Stock reserved for issuance under the ESPP. These shares may be adjusted for any future stock splits. The ESPP will terminate when all shares reserved have been subscribed for and purchased, unless terminated earlier or extended by the Board of Directors. The Compensation Committee of the Board of Directors administers the ESPP. As of October 31, 2001, the number of employees enrolled and participating in the ESPP was 44 and the total number of shares purchased under the ESPP was 384,212. For purposes of the pro-forma calculation, compensation cost is recognized for the fair value of the employee's purchase rights, which was estimated using the Black Scholes option pricing model with the following assumptions for subscription periods beginning in fiscal 2001, 2000 and 1999:

	Dividend	Risk free	Expected	Volatility
Year	Rate	interest rate	Life	factor
2001	0%	6.29%	6 months	69.8%
2000	0%	4.77%	6 months	62.5%
1999	0%	4.83%	6 months	57.9%

The weighted average fair value of those purchase rights granted in 2001, 2000 and 1999 was \$9.16, \$.79 and \$.94, respectively.

Plan activity for the years ended October 31, 2001, 2000 and 1999, was as follows:

	Number of Shares
Balance at October 31, 1999	627,650
Issued @ \$3.69	(9,600)
Issued @ \$3.09	(7,800)
Issued @ \$3.62	(60,152)
Balance at October 31, 2000	550,098
Issued @ \$7.28	(17,896)
Balance at October 31, 2001	532,202
Issued @ \$8.57	(12,904)
Issued @ \$29.28	(3,510)
Balance at October 31, 2001	515,788

No compensation cost has been recognized for stock options and employee stock purchase rights in the consolidated statements of income (loss). Had we determined compensation cost based on the fair value at the grant date for the stock options and employee stock purchase rights in the ESPP, our net loss and loss per share would have been the pro forma amounts indicated below.

			2001	2000	<u>1999</u>
Net loss:	As reported Pro forma	\$ \$	(15,438) (18,121)	(4,459) (5,564)	(985) (2,015)
Loss per share:	As reported – Basic & Diluted Pro forma – Basic	\$	(0.45)	(0.16)	(0.04)
	& Diluted	\$	(0.53)	(0.20)	(0.08)

(13) Employee Benefits

The Capital Accumulation Plan for employees of FuelCell Energy, Inc. was established by us on January 19, 1987 and was last amended on June 15, 1999. A three-member pension committee administers the Plan. The plan is a 401(k) plan covering our full time employees who have completed one year of service. We contribute a cash amount equal to 5% of each participant's W-2 compensation to the plan on a monthly basis. Participants are required to contribute a minimum of 3% in order to be eligible to participate and receive a company match. An employee may then choose to make voluntary contributions up to an additional 12% of W-2 compensation out of pretax earnings. Effective June 1, 1997, participants may make voluntary contributions up to an additional 6% of W-2 compensation out of after-tax earnings. Under the plan, there is no option available to the employee to receive or purchase our common stock. We charged \$402, \$328 and \$402 to expense during the years ended October 31, 2001, 2000 and 1999, respectively.

The FuelCell Energy, Inc. Money Purchase Plan, a defined contribution plan was established by us on May 10, 1976 and was last amended on June 1, 1997. The Plan covers our full-time employees who have completed one year of service. We contribute a cash amount equal to 4% of each participant's W-2 compensation to the plan on a monthly basis. There is no option available to purchase our common stock. We charged \$340, \$264 and \$312 to expense during the years ended October 31, 2001, 2000 and 1999, respectively.

(14) Income Taxes

The components of Federal income tax expense (benefit) were as follows for the years ended October 31, 2001, 2000 and 1999:

	2001	2000	1999
Current: Federal Foreign	\$ - 	<u>-</u>	\$ (188)
Deferred: Federal Foreign	- 	- 	479 479
Total income tax expense	<u>\$</u>	\$	\$ 291

State income tax expenses, which are included in administrative and selling expenses, were \$210, \$180 and \$174, for the years ended October 31, 2001, 2000 and 1999, respectively.

The reconciliation of the federal statutory income tax rate to our effective income tax rate for the years ended October 31, 2001, 2000 and 1999 was as follows:

	2001	2000	1999
Statutory Federal income tax rate	(34.0%)	(34.0%)	(34.0%)
Nondeductible expenditures	-	-	17.4
Other, net	-	-	.9
Valuation Allowance	<u>34.0%</u>	34.0%	<u>57.6%</u>
Effective income tax rate	0.0%	0.0%	41.9%

Our federal and state deferred tax assets and liabilities consisted of the following at October 31, 2001, 2000, and 1999:

	2	2001	 2000	 1999
Deferred tax assets:				
Compensation and benefit accruals	\$	767	\$ 495	\$ 472
Bad debt and other reserves		300	257	31
Capital loss and tax credit carryforwards		319	321	614
Net Operating Loss		8,842	1,666	-
Other		106	 64	 14
Gross deferred tax assets		10,334	2,803	1,131
Valuation allowance		(9,452)	 (2,244)	 (573)
Deferred tax assets after				
valuation allowance		882	 559	 <u>558</u>
Deferred tax liability:				
Accumulated depreciation		(591)	 (268)	 (267)
Gross deferred tax liability		(591)	(268)	(267)
Net deferred tax assets (State and Federal)	\$	291	\$ 291	\$ 291

The federal and state valuation allowance increased approximately \$7.2 million. This increase relates primarily to the current year net operating loss. Approximately \$1.5 million of the valuation allowance relates to net operating losses generated through the exercise of stock options.

We have foreign tax credits of approximately \$296 available for carryforward that will expire in 2003. We have federal and state net operating loss carryforwards of approximately \$23 million that are available to offset future taxable income through the year 2020.

Management believes it is more likely than not that the remaining net deferred tax assets of \$291 will be realized.

(15) Earnings Per Share

Basic and diluted earnings per share are calculated using the following data:

	2001	2000	1999
Weighted average basic Common shares	34,359,320	28,297,594	24,906,856
Effect of dilutive securities		_	
Weighted average basic Common shares adjusted for diluted calculations	_34,359,320	28,297,594	24,906.856

The computation of diluted loss per share for fiscal years 2001, 2000 and 1999 follows the basic calculation since common stock equivalents were antidilutive. The weighted average shares of dilutive securities that would have been used to calculate diluted EPS had their effect not been antidilutive would have been 3,982,456, 3,497,126 and 2,919,500, respectively.

(16) Selected Quarterly Financial Data (unaudited)

Year Ended 10/31/2001	Re	venues	income (loss)	_	per share d diluted
First quarter	\$	5,333	\$ (2,792)	\$	(0.09)
Second quarter		6,493	(5,073)		(0.16)
Third quarter		7,622	(2,765)		(0.08)
Fourth quarter		6,731	(4,808)		(0.12)
<u>Year Ended 10/31/2000</u>	Re	venues	income (loss)	Earnings Basic an	per share d diluted
Year Ended 10/31/2000 First quarter	Re	3,600		_	_
· · · · · · · · · · · · · · · · · · ·			 (loss)	Basic an	d diluted
First quarter		3,600	 (loss)	Basic an	d diluted 0.00

(17) Subsequent Events (unaudited)

On January 8, 2002, we entered into a market development agreement with CMS Viron Energy Services to jointly pursue fuel cell projects in the state of California. Under the agreement, we will jointly market and sell Direct FuelCell® power plants and perform project, customer and site development, system integration, permitting and project financing for those plants.

On December 21, 2001, we announced the signing of a marketing development agreement with Chevron Energy Services L.P., a subsidiary of ChevronTexaco, to jointly pursue fuel cell projects. Under the agreement, FuelCell Energy and Chevron Energy Solutions will jointly market and sell Direct FuelCell® power plants and will perform project, customer and site development, system integration, permitting and project financing. Initial projects will be targeted for development in the Northeastern United States and California.

On November 15, 2001, we announced the signing of an agreement with Caterpillar to distribute ultra-low emission fuel cell products for industrial and commercial use. Under the agreement, Caterpillar will distribute our products through selected Caterpillar dealers in the United States. Both companies will also pursue an alliance to jointly develop fuel cell systems, including highly efficient hybrid products integrating Caterpillar's turbine engine technology.

Corporate Offices

FuelCell Energy, Inc. Headquarters, Research & Development 3 Great Pasture Road Danbury, CT 06813-1305 203 825.6000

Manufacturing

539 Technology Park Drive Torrington, CT 06790-0538

Form 10-K

A portion of the Form 10-K is included as part of this report. The full Form 10-K, as filed with the Securities and Exchange Commission, can be accessed on our website at www.fuelcellenergy.com.

Registrar and Transfer Agent

Shareholders with questions regarding lost certificates, address changes or changes of ownership should contact:

Continental Stock Transfer & Trust Company 17 Battery Place 8th Floor New York, NY 10004 Shareholder Relations: 212 509.4000 www.continentalstock.com

Auditors

KPMG LLP

Legal Counsel

Robinson & Cole LLP

Annual Meeting

The Annual Meeting of Shareholders will be held Wednesday, March 26, 2002 at 10:00 a.m. at the FuelCell Energy Headquarters, 3 Great Pasture Road, Danbury, CT.

Common Stock Listing

Nasdaq National Market Symbol: FCEL

Company Contacts

For additional information about FuelCell Energy, Inc. contact:

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Danbury, CT 06813-1305

Internet

www.fuelcellenergy.com E-Mail: moreinfo@fce.com

Stock Price Information

The Company's Common Stock trades on the Nasdaq National Market under the symbol FCEL. Prior to June 7, 2000, the Company's stock traded on the American Stock Exchange under the symbol FCL. The following table sets forth the range of high and low sales prices, as reported by the Nasdaq National Market and the American Stock Exchange, as applicable:

Common Stock	High	Low
Year Ended 10/31/01		
First Quarter	\$ 41.75	\$ 22.63
Second Quarter	36.25	19.25
Third Quarter	46.72	15.50
Fourth Quarter	20.45	10.48
Year Ended 10/31/00		
First Quarter	15.75	4.21
Second Quarter	23.88	7.88
Third Quarter	20.28	9.00
Fourth Quarter	54.38	15.82

Dividend Policy

No cash dividends have been declared or paid by the Company since its inception. It is the current policy of the Company to retain future earnings for business expansion.

Statements in this report relating to matters not historical are forward-looking statements that involve important factors that could cause actual results to differ materially from those anticipated. Cautionary statements identifying such important factors are described in reports, including the Form 10-K for the fiscal year ended October 31, 2001, filed by FuelCell Energy, Inc. with the Securities and Exchange Commission.

[&]quot;Direct FuelCell", "DFC" and "DFC/T" are registered trademarks of FuelCell Energy, Inc.



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